Maricopa County Maternal and Child Health Needs Assessment 2000

Produced by:
Maricopa County Department of Public Health

Divisions of
Epidemiology and Data Services
Community Health Services, Office of Family Health

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Acknowledgments

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Special thanks to Dr. Arthur Chen with the Alameda County Public Health Department, and El Dorodo County for the formatting ideas for this document. (See “Measuring Our Health: The Health Status of El Dorodo County”, and “Alameda County Health Status Report 2000.”)

Acronyms

ADHS TEPP	Arizona Department of Health Services Tobacco Education and Prevention Project
AHCCCS	Arizona Health Care Cost Containment System
APNCU	Adequacy of Prenatal Care Utilization
AZ	Arizona
CDC	Center for Disease Control
FAS	Fetal Alcohol Syndrome
HCH	Health Care for the Homeless
HP2000	Healthy People 2000
HP2010	Healthy People 2010
IMR	Infant Mortality Rate
IHS	Indian Health Services
LBW	Low Birth Weight
MAAAC	Maricopa County Allies Against Asthma Coalition
MC	Maricopa County
MCDPH	Maricopa County Department of Public Health
MCH	Maternal and Child Health
NICP	Newborn Intensive Care Program
NICU	Neonatal Intensive Care Unit
NTD	Neural Tube Defect
OB	Obstetrics
OOH	Office of Oral Health
OWCH	Office of Women and Children's Health
PHPAB	Public Health Policy Advisory Board
PNC	Prenatal Care
PRAMS	Pregnancy Risk Assessment Monitoring System
SIDS	Sudden Infant Death Syndrome
SPIN	Successful Parenting Information Network
U.S	United States
VLBW	Very Low Birth Weight
WIC	Women, Infants, and Children

Executive Summary

- The overriding demographic feature in Maricopa County (MC) is the population growth, with annual increases of approximately 80,000 persons, leading to a strain on all public services.

- MC residents have high fertility rates when compared with the nation, mostly attributable to the high fertility rates among Hispanics, one of the fastest growing population groups in the county. Increases in the Hispanic population are due to both an increase in births and immigration (from within and without the U.S.).

- Teenage birth rates are high, as they are in all of Arizona, with Hispanics showing the highest rate, followed by African American adolescents.

- Consistent with national patterns, teenage birth rates have decreased in all ethnicities over the last five years, holding steady over the last three years.

- Low educational level as a risk factor for multiple poor birth outcomes is a concern, particularly among Hispanic and African American mothers. Whites and Asians have the largest proportion of mothers with more than 12 years of education. Educational levels are important because women with less education suffer from high infant mortality rates (IMR), low birth weight (LBW) and inadequate prenatal care (PNC).

- Unemployment rates in MC are the same or lower than U.S. rates and have been declining. However, income statistics are unfavorable; there is a higher percentage of children and adults living under the poverty level in MC than in the U.S.

- The percentage of deliveries covered by private insurance has increased over the past three years, as the economy improved and more persons were able to obtain employment-related insurance. At the same time, the percentage of births paid for by the Arizona Health Care Cost Containment System (AHCCCS) has decreased.

- The percentage of mothers receiving no prenatal care has increased, almost completely attributable to the sharp increase in Hispanic mothers receiving no PNC. These women may not be seeking care for many reasons, including fears about the consequences of seeking free care given their immigrant status.

- Very low birth weight (VLBW), the most serious of the two components of LBW, is most common among African Americans, Hispanics and Native Americans. African Americans and Asians experience the largest

proportion of births between 1500 and 2500 grams, the upper portion of the LBW spectrum.

- The excessive disparities in infant mortality, preterm birth, and LBW between African Americans and all other groups are the salient issues in the improvement of pregnancy outcomes in MC.

- Although most population groups (except African Americans) have reasonable rates of LBW, all of Maricopa County's population groups show high rates of preterm births.

- The higher rates of Neonatal Intensive Care Unit (NICU) hospitalizations among MC births raises the issue of accessibility of these facilities to those living in other parts of the state. In addition, while MC admits a higher proportion of births to the NICU, Arizona, as a whole, has historically admitted a larger proportion into the Newborn Intensive Care Program (NICP).

- The proportion of mothers receiving less than adequate PNC in MC has decreased over the last three years, although the number is still higher than the U.S. proportion.

- Adolescents had the highest percentage of deliveries on AHCCCS, and the highest proportion of mothers receiving less than adequate PNC.

- The screening of school children for dental cavities in MC takes place only in the schools with the highest percentages of children below the poverty level. This would lead us to expect higher percentages of children with caries. The 2010 objective for having untreated dental decay is 21% for the whole population. The sampled school children in MC consistently have percentages with dental caries in the low forties (43% in 1998).

- Hispanics and Native Americans have the highest rates of neural tube defects (NTD) in MC, a condition preventable by adequate folic acid intake.

- The groups with the highest proportion of tobacco abstinence are Asians, Hispanics and Native Americans. Alcohol abstinence was high across all ethnic groups.

Comparison of Selected Maternal and Child Health Indicators in Maricopa County, Arizona with Healthy People 2000 and 2010 Objectives

			Maricopa County						
Indicator[1]	Healthy People 2000 Objective	Healthy People 2010 Objective	Year	Rate	Status	White Non-Hispanic	Hispanic	African American	Native American	Asian/Pacific Islander
Infant Mortality Rate	7	4.5	1998	7.1		5.8	8.7	15.6	6.2	2.7
Neonatal Mortality Rate	4.5	2.9	1996-1998	4.8		4.1	5.6	9.9	3.5	2.7
Post Neonatal Mortality Rate	2.5	1.5	1996-1998	2.3		2.2	2.3	4.1	3.3	1.7
Sudden Infant Death Syndrome (SIDS)	none available	0.3	1998	0.64		NC	NC	NC	NC	NC
Low Birth Weight (1500 - 2,500 grams)	5.00%	5.00%	1998	5.5%		5.2%	5.5%	9.8%	5.1%	6.3%
Very Low Birth Weight (<1,500 grams)	1%	0.90%	1998	1.2%		1.0%	1.1%	2.7%	1.3%	1.0%
Preterm Births	none available	7.60%	1998	9.9%		9.8%	9.6%	13.2%	8.9%	10.0%
PNC Beginning in First Trimester	90%	90%	1998	75.9%		86.4%	62.2%	72.7%	60.3%	85.1%
Early and Adequate PNC	none available	90%	1998	69.0%		82.5%	63.7%	73.8%	60.8%	82.0%
Adolescent Pregnancy Among 15-17 year olds	50/1,000	none available		*	*	*	*	*	*	*
Asthma hospitalizations	160/100,000	none available	1998	359.6/100,000		NC	NC	NC	NC	NC
Asthma hospitalizations- Children 5 to 14	225/100,000	none available	1998	256.9/100,000		NC	NC	NC	NC	NC
Asthma hospitalizations- Children younger than 5	none available	25/10,000	1998	45/10,000		NC	NC	NC	NC	NC
Oral Health- Untreated Dental Decay, 6-8 year olds	20%	21%	1990	43%		DNA	DNA	DNA	DNA	DNA
Oral Health- Untreated Dental Decay, 11-13 year olds	none available	15%	1990	33%		DNA	DNA	DNA	DNA	DNA
Neural Tube Defects (NTD)	3/10,000	3/1,000 incidence	1996-1998[3]	1.53/10,000		0.91	2.6	0	2.7	0
Early Postpartum Breastfeeding	75%	75%		DNA	DNA	DNA	DNA	DNA	DNA	DNA
Breastfeeding at 6 months postpartum	50%	50%		DNA	DNA	DNA	DNA	DNA	DNA	DNA
Breastfeeding at 1 year postpartum	none available	25%		DNA	DNA	DNA	DNA	DNA	DNA	DNA
Alcohol Abstinence	95%	94.00%	1998	99.3%		99.1%	99.7%	98.7%	98.8%	99.8%
Cigarette Abstinence	90%	98%	1998	91.0%		87.8%	95.5%	86.8%	94.0%	96.6%
Illicit Drugs	100%	100%		DNA		DNA	DNA	DNA	DNA	DNA
Fetal Alcohol Syndrome (FAS)	0.12/1,000	Developmental	1996-1998	0.12		0.07	0.09	0	0.81	0.34
Homicide	none available	3.2/100,000	1998	8.09/100,000		NC	NC	NC	NC	NC
Suicide	10.5/100,000	none available	1998	12.7/100,000		NC	NC	NC	NC	NC
Unintentional Injury Deaths	29.3/100,000	20.8/100,000	1998	33.9/100,000		NC	NC	NC	NC	NC

[1] unless stated otherwise, rates are per 1,000 live births.
[2] 1990 Objective was for abstinence from cocaine and marijuana
[3] NTD rates were calculated from birth certificates, rate per 10,000 live births.
* Incompatible denominator
NC = Not Calculated or insufficient data
DNA = Data Not Available

Status
HP 2000 objective not met.
HP 2000 objective met.
If no HP 2000 objective was avaialable, HP 2010 objectives were used.

Introduction

The mission of the Maricopa County Department of Public Health Services (MCDPH) is to promote, preserve, and protect the health of people and communities of Maricopa County. As a part of this mission, the divisions of Epidemiology and Data Services and Community Health Services collaborate to assess the maternal and child health (MCH) needs of Maricopa County. In order to better understand the health needs of mothers and children in Maricopa County and to target the health areas of highest priority, an annual needs assessment of Maternal and Child Health is conducted.

The 2000 Maricopa County Maternal and Child Health Needs Assessment addresses seven main substantive areas of maternal and child health:

1) Infant mortality;
2) Low birth weight rate and preterm birth rate;
3) Prenatal care;
5) Child and Adolescent health;
4) Nutrition and neural tube defects;
6) Substance abuse and fetal alcohol syndrome;
7) Injuries and Violence

Additionally, a social and demographic profile of Maricopa County is included to summarize the population demographics of the county, to describe the county's population of women of childbearing age (15-44 years of age) and to show fertility rates among different groups of women. Indicators were selected for each of these sections based on the perceived needs of mothers and children in Maricopa County, requirements set forth by Arizona Department of Health Services Office of Women and Children's Health, and objectives set forth by Healthy People 2000 (HP 2000) and Healthy People 2010 (HP 2010). Healthy People 2010 is a national initiative that followed HP 2000, setting goals for the nation to achieve by the year 2010 regarding important health indicators. The central goals of Healthy People 2010 are to 1) "Increase quality and years of healthy life" and 2) "Eliminate health disparities."[1]

Within each of the main sections of this needs assessment, several maternal and child health indicators are addressed. A series of questions are answered regarding each of the indicators: 1) What is it? (the definition of the indicator); 2) Why is it important? (the health information related to the indicator); 3)How are we doing? (Maricopa County's status compared to AZ, the U.S., HP 2000 and/or HP 2010); 4) What are we doing? (MCDPH activities in the topic area). Recommendation sections have also been included at the end of each section. The recommendations are broken down into the core functions of public health, *assessment, assurance,* and *policy development*[2].

- *Assessment* is the collection, analysis, and dissemination of data relating to the health conditions, risk factors, and resources available in a community. Assessment provides policy makers with information to drive decisions and assurance efforts by describing the distributions and determinants of diseases and making available information about the health of a community.

- *Assurance* refers to the responsibility of public health agencies to assure their constituents the services needed to meet agreed upon public health goals and to set standards for "best practice", either through directly providing services, encouraging action by other entities, or by requiring action through regulation.

- *Policy Development* is the development of public health policies to best serve the needs of a community, based on an appreciation for the democratic political process. It is the responsibility of every public health agency to promote the use of a scientific knowledge base in decision making and to take the lead in developing public health policy.

It is important to note that Healthy People 2000 and 2010 (HP2000 & HP2010) serve as the main tools for comparison in this needs assessment. As a result, recommendations are focused on long range strategic planning to move maternal and child health in Maricopa County towards the Healthy People 2010 objectives.

These recommendations also address the health needs of mothers and children in the community beyond the need for more or better health care.

Analyses of specific geographic areas within Maricopa County are not included in this needs assessment, in part because of the time elapsed since the 1990 census. Because of Maricopa County's exponential growth over the past ten years, analysis of Maternal and Child Health (MCH) indicators by geographic areas was postponed until 2000 census data are available. Additionally, the enormous land mass of Maricopa County and the extreme diversity in population demographics by geographic area necessitates that a separate document be devoted to the analysis of MCH indicators by geographic areas. However, if geographic data are needed, we have included, as an appendix, a data request form to obtain information from Maricopa County Department of Public Health (MCDPH).

Data pertaining to charts and graphs in this document are included in the appendix, as are data tables for Maricopa County birth statistics, linked infant death statistics, and oral health statistics.

Social and Demographic Profile

Key Findings

Population Demographics

- Maricopa County's population grew 3.14% from 1997 to 1998, with a total of 2,784,075 people in 1998 (U.S. Census Bureau projections).[3]

Maternal Age and Birth Rates

- Women 25-29 years of age accounted for 27.88% of the births in Maricopa County, the highest percentage of births among maternal age groups.

- Women 20-24 years of age had the highest fertility rate at 138.39 per 1,000 population.

Race and Ethnicity and Birth Rates

- Among all births, Hispanics were over-represented (37.90%) and Whites/Anglos were under-represented (52.76%) when compared to the racial/ethnic make up of the county population in 1998.

- Hispanics had the highest birth rates in the county, with a rate of 152.8 per 1,000 women age 15-44 in 1998

Education

- The county dropout rates for 7th grade through high school for the 1996 through 1998 school years were lower than the state dropout rates.

Household Income, Poverty, and Unemployment

- Maricopa County had a higher percentage of children younger than 18 years of age living in poverty (21.5%) than in the U.S. (20.8%) in 1995.

- Maricopa County maintained a lower unemployment rate than Arizona as a whole (2.7% versus 4.1% in 1998).

Payment for Delivery

- More than 50% of women delivering in Maricopa County were privately insured in 1998, with women using AHCCCS making up 40.1% of the remainder.

Social and Demographic Profile

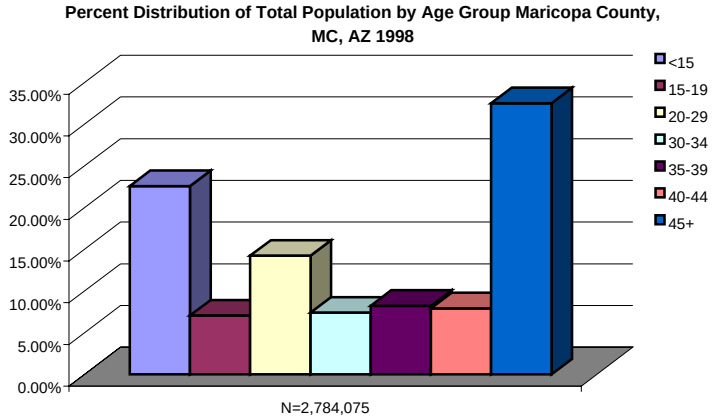
Population Demographics

Why is it important?

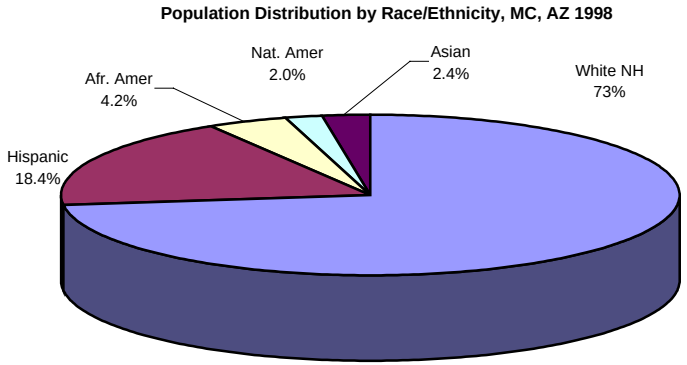
Most diseases and health conditions follow patterns by age and sex. Some conditions are more common in older persons (arthritis), while others are solely conditions of the young (Sudden Infant Death Syndrome or SIDS). Women of childbearing age have specific health needs. As a result, trends can be identified and projections made as to the health needs and challenges a population will face.

What is our status?

- The overall population of Maricopa County in 1998 was 2,784,075. The population grew by 6.11% from 1996 to 1998. Individuals 45 years of age and older comprised 32.54% of the total population of Maricopa County in 1998.[3]

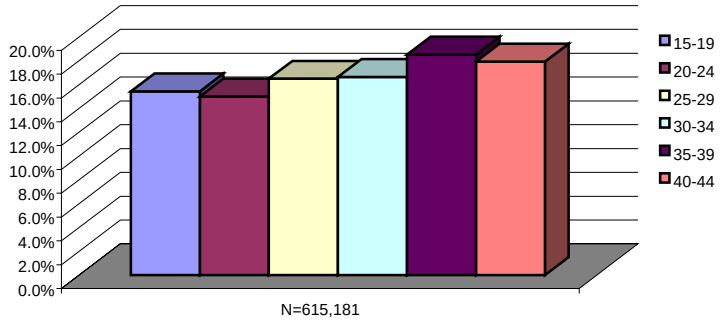


- In 1998 Whites made up the largest proportion (73%) of the population in Maricopa County, followed by Hispanics (18.4%).[3]

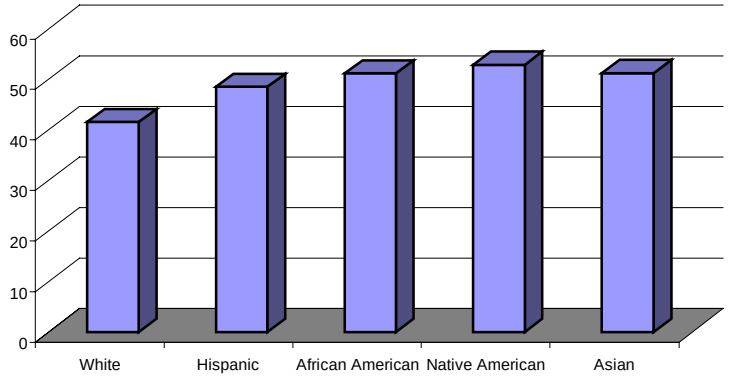


- Women age 20-34 accounted for the bulk of births in Maricopa County (75% in 1998), and made up 21% of the population of women in Maricopa County.[3,4,]

Percent Distribution of Women of Child-Bearing Age (Ages 15-44) by Age Group, MC, AZ 1998



Percentage of All Women Whose Age is 15-44 in Each Racial/Ethnic Group, MC, AZ 1998



- Native Americans had the highest proportion of all women between the ages of 15 and 44 in Maricopa County in 1998, at 53%. African Americans and Asians had the next highest, both at 51%. 49% of Hispanic women and 42% of White women were between the ages of 15 and 44.[3]

Social and Demographic Profile

Maternal Age and Birth Rates

What are they?

Maternal age is the age of a mother when she delivers.

Birth rates are the number of births in a specific age group divided by the number of women of childbearing age in that age group.

Why is it important?

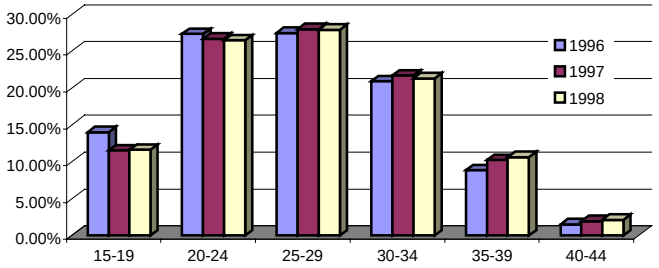
Younger and older mothers tend to have higher risk pregnancies. The needs of mothers 15 years of age differ greatly from those 45 years and older. In our society, teenage pregnancies can be problematic socially and economically and are at increased risk for poor health outcomes.

Identifying which maternal age groups are having children will help shape programs to meet specific MCH needs.

What is our status?

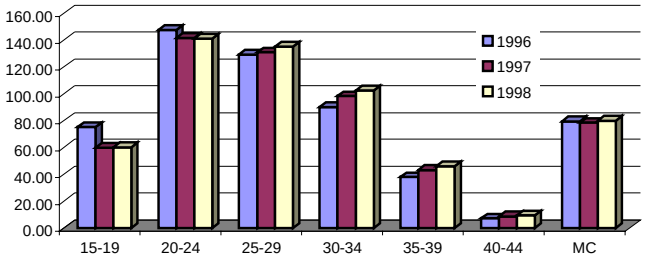
- Women 25-29 years of age accounted for 27.88% of the births in Maricopa County in 1998, the highest percentage of births among the maternal age groups. This age group had the highest percentage of births in 1996 (27.45%) and 1997 (27.96%) as well.[4]

Percent Distribution of Births by Maternal Age Group, MC, AZ 1996-1998



- The 1998 county birth rate was 79.51 per 1,000 women of childbearing age, 15-44. Women age 20-34 had a fertility rate of 125.7 per 1,000 women.

Birth Rate Per 1,000 Women Among Women Ages 15-44 by Maternal Age Group, MC, AZ 1996-1998



- Women age 20-24 consistently had the highest birth rates, at 141 births per 1,000 women in 1998.[3,4]

Social and Demographic Profile

Race/Ethnicity and Birth Rates

What are they?

A person is classified as White/Anglo, Hispanic/Latino, Black/African American, Indian/Native American, or Asian/Pacific Islander if they have identified themselves as such to either census takers, the hospital, or by their relatives to the funeral director upon their death.

Birth rates are calculated as the number of births to women of a particular race/ethnicity divided by the population of women age 15-44 of that race/ethnicity.

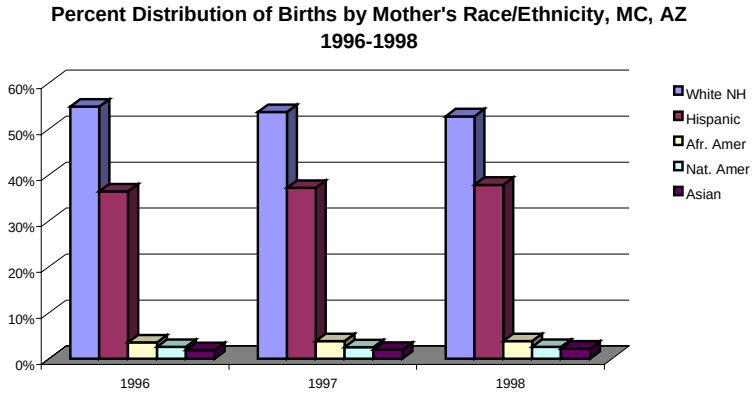
Why is it important?

In the U.S. racial and ethnic designations are proxies first for socioeconomic status and secondly for living conditions of groups of people. Finally, they act as proxies for certain cultural behavioral patterns and health disparities.

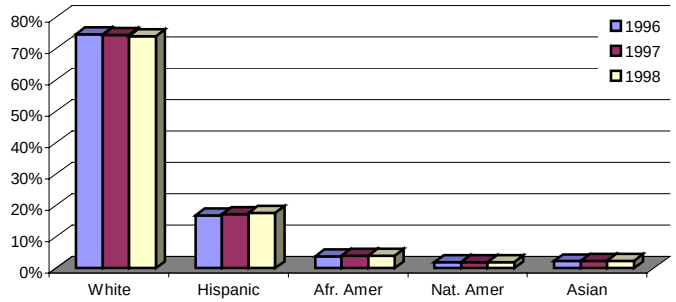
Most minority groups in the U.S. have lower income and less access to care than the White/Anglo majority. Additionally, even if an individual of a minority racial/ethnic group has high income, the aggregate or collective living conditions of the group can adversely affect the individual's health, such as the neighborhood or work conditions under which the individual lives. Finally, the customs and culture of different ethnic groups (including Whites/Anglos) can have either beneficial (Mexican-American women tend not to smoke) or adverse (a diet rich in high saturated animal fats in some groups of European ancestry) effects on health. Identifying which maternal racial/ethnic groups are having children will help shape programs to meet specific MCH needs.

What is our status?

- In 1998 the population in Maricopa County comprised 73.97% White Non-Hispanics, 17.65% Hispanics, 4.02% African Americans, 1.99% Native Americans, and 2.38% Asians.[3]



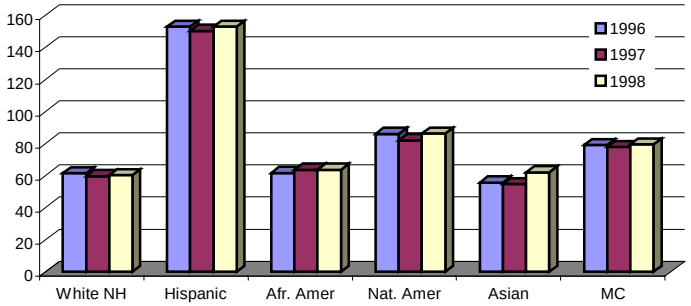
Percentage of Women Age 15-44 in Each Racial/Ethnic Group, MC, AZ 1996-1998



- There were 49,324 registered live births in Maricopa County during 1998, an increase of 4.45% over the 47,127 registered live births for 1997. Among all births, Hispanics were over-represented (37.90%) and Whites/Anglos were under-represented (52.76%) when compared to the racial/ethnic make up of the county population. This is consistent with the different racial/ethnic specific fertility rates.[4]

- Hispanics consistently had the highest birth rates, with a rate of 152.79 per 1,000 women age 15-44 in 1998, compared to birth rates of 86 per 1,000 among Native Americans, 64 per 1,000 among African Americans, 62 per 1,000 among Asians, and 60 per 1,000 among Whites.[3,4]

Birth Rates Per 1,000 Population of Women Age 15-44 by Race/Ethnicity, MC, AZ 1996-1998



Social and Demographic Profile

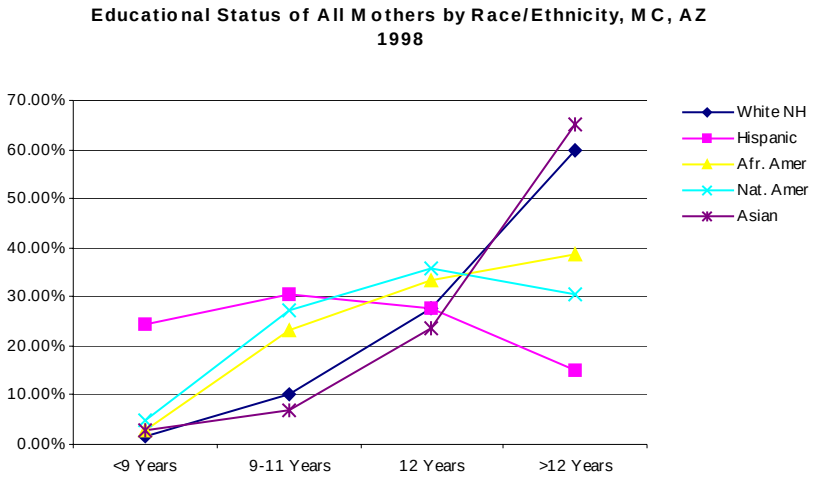
Education

Why is it important?

Educational levels are linked to health status through income levels, access to care, and behavioral patterns. In the U.S. persons with low educational levels tend to earn low salaries, have limited or no health insurance, have low knowledge levels about healthy behaviors, and less access to good housing, nutrition, exercise and other factors.

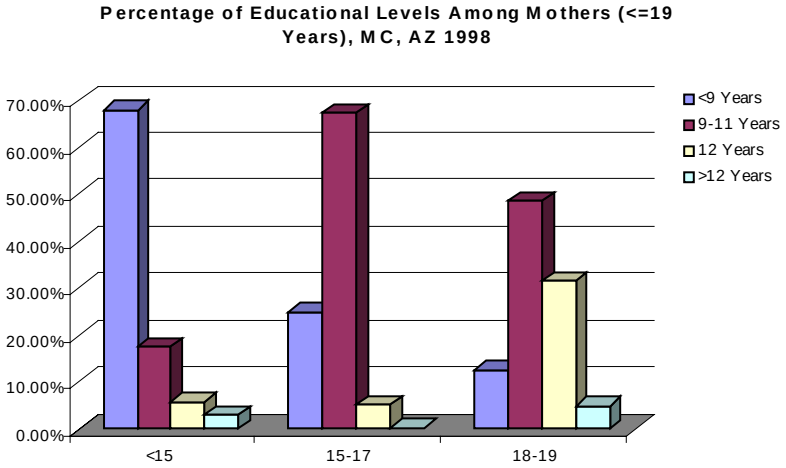
What is our status?

- The proportion of mothers who delivered during 1998 and attained higher than 12 years of school was highest in Asian (65.1%) and White (59.8%) women.[4]



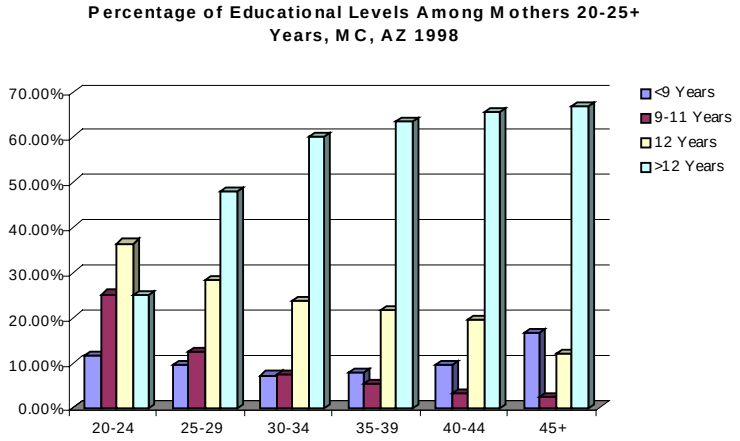
- Hispanics had the highest proportion of women achieving less than 9 years of education (24.4%) and 9-11 years (30.4%).

- The graph below shows the distribution of educational levels among mothers age 19 years old and younger. Among mothers less than 15 years of age and 15-17 years of age, the majority had educational levels of



less than 9 and 9-11 years, respectively, and were as expected for age. Among mothers 18-19 years of age, the majority of mothers had educational levels of 9-11 and 12 years, which was expected for this age group.

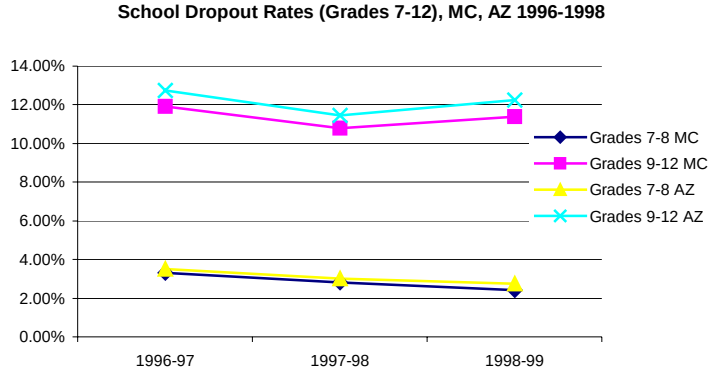
- The percentage of mothers with >12 years of education increased with the age of the mother.[6]



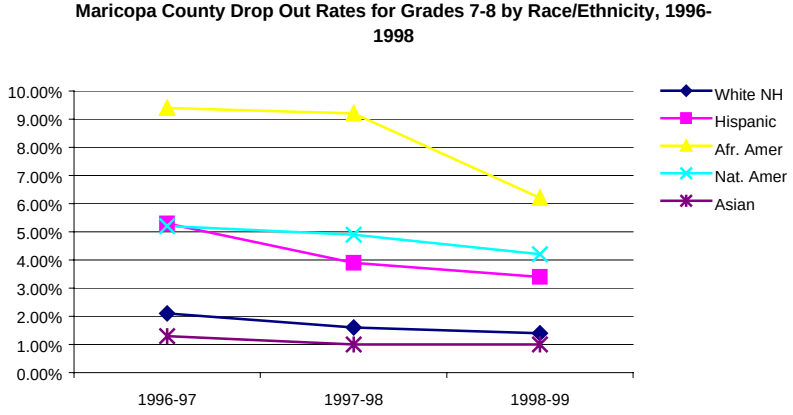
Drop Out Rates

- During the 1996-97 school years, the dropout rate for 7-8th graders in the county totaled 3.30%, lower than the state dropout rate of 3.49%. The county rates for the 1997-98 and 1998-99 school years were lower than the state rates as well, 2.80% versus 3.00% and 2.40% versus 2.73% respectively.[5]

- The county dropout rates for 9-12th graders were also lower than the state for all three school years: 11.90% versus 12.76% (1996-97), 11.40% versus 12.24% (1997-98), and 10.80% versus 11.45% (1998-99).[5]

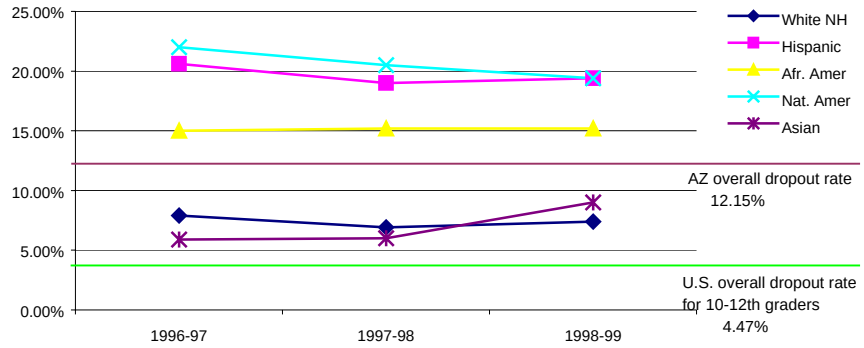


- African American children in grades 7-8 experienced a decline in the number of dropouts from the 1996-97 school year (9.4%) to the 1998-99 school year (6.2%) in Maricopa County.[6]



- Asian students in grades 9-12 experienced an increase in the number of dropouts from the 1996-97 school year (5.9%) to the 1998-99 school year (9.0%) in Maricopa County.[6] The national dropout rate for 10th-12th graders for the 1996-1998 school years was 4.47%.[7]

Maricopa County Drop Out Rates for Grades 9-12 by Race/Ethnicty 1996-1998



Social and Demographic Profile

Household Income, Poverty, and Unemployment

Why are they important?

Income is related to health status through access to care, living conditions, access to good nutrition, and through its connection to education.

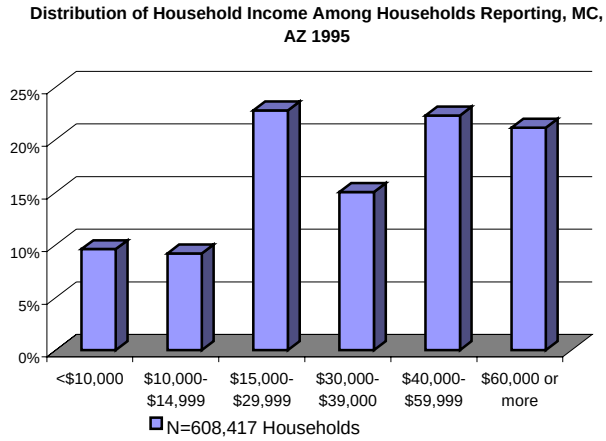
Lower household income is also associated with juvenile crime, higher stress levels, and a lack of physical activity, all of which contribute to health status.

Unemployment rates are another means of measuring the economic status of a community. To qualify as unemployed, a person must be available to work and have looked for employment in the past four weeks. This underestimates the true rate, as it does not include underemployed or those who have given up looking for work.

What is our status?

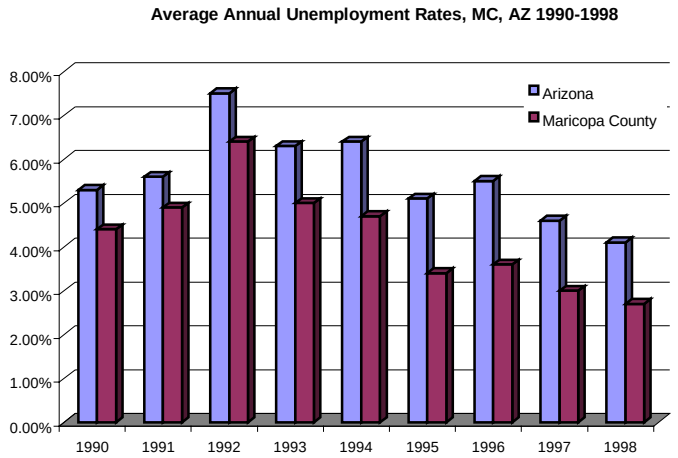
- In 1993 the average family income for Maricopa County was $33,916. In 1995 the average family income was $37,583. Both of these amounts were higher than the state averages for 1993 ($28,427) and 1995 ($31,736), and below the U.S. averages ($41,428 in 1993 and $44,938 in 1995).[8,9]

- The median household income for Maricopa County was $35,623 in 1995, while the U.S. median income was $34,076. The majority of household incomes fell in the range of $15,000 to $29,999 (22.76%).[6]



- Although the percentage of people living in poverty in Maricopa County has declined, there was a higher percent of children younger than 18 years of age living in poverty in Maricopa County than in the U.S. in 1995.

Percentage of People Living in Poverty		
	1993	1995
Maricopa Co.		
All Ages	16.00%	13.80%
<18 years	25.40%	21.50%
Arizona		
All Ages	18.50%	16.30%
< 18 years	28.00%	24.70%
U.S.		
All Ages	15.10%	13.80%
<18 years	22.70%	20.80%



- Since 1992, state unemployment rates have followed a declining pattern with the exception of a 5.8% increase in 1996. Maricopa County has consistently maintained a lower unemployment rate than Arizona as a whole.[6]

Social and Demographic Profile

Payment for Delivery

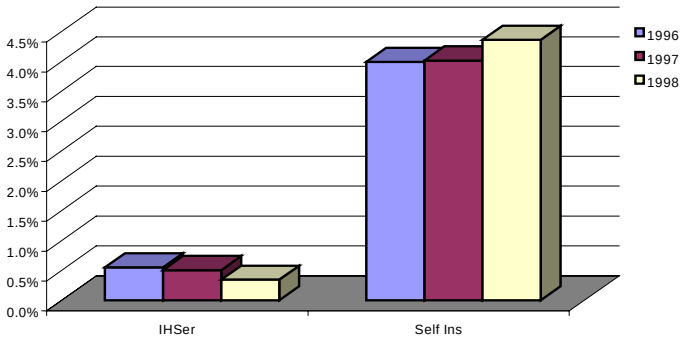
Why is it important?

Identifying the payee provides insight into the cost-burden that mothers and families carry for the services they receive and the systems of care to which they have access. The different types of coverage include AHCCCS, Indian Health Services (IHS), private insurance, and self-insurance.

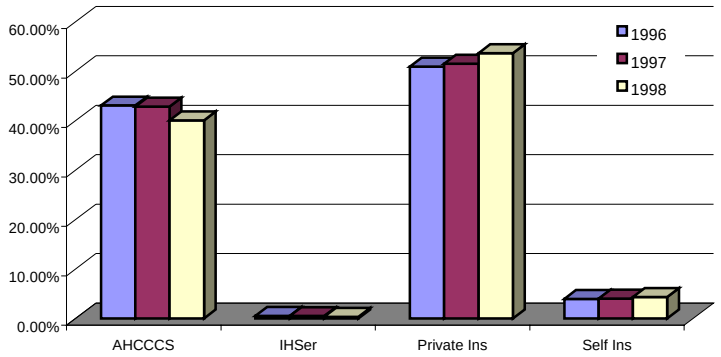
What is our status?

- The majority of women delivering in Maricopa County were privately insured (53.71% in 1998). The second largest payer for births in Maricopa County was AHCCCS (40.12% in 1998).[4]

Payee Type for All Mothers by Indian Health Services, and Self-Insurance, MC, AZ



Payee Type for All Mothers, MC, AZ 1996-1998



- As AHCCCS and Indian Health Services usage decreased, private insurance and self-insurance usage increased.[4]
- Less than 1% of mothers used Indian Health Services over the years 1996 to 1998, and only 4% of mothers used self-insurance.[4]
- Nationally, roughly 15% of the population were enrolled in Medicaid in 1998.[10]

Infant Mortality

Key Findings

- Maricopa County has yet to meet the Healthy People 2000 objective of 7 infant deaths per 1,000 live births. Current infant mortality rate in Maricopa County, Arizona is 7.3 infant deaths per 1,000 live births (1999).

- In 1998, in Maricopa County, African Americans had an infant mortality rate as high as 15.6, compared to 8.7 for Hispanics and 5.9 for Whites.

- Infant Mortality rates are higher in teenage mothers, and in mothers over 40 years of age.

- Maricopa County is moving away from or getting worse than the HP2010 Objective for SIDS of 0.3 cases per 1,000 live births (there was no HP 2000 objective for SIDS). The SIDS death rate in Maricopa County for 1998 was 0.64 deaths per 1,000 live births.

Infant Mortality

What is it?

Infant mortality is the death of a child less than one year of age. Infant mortality is commonly separated into two components: neonatal mortality (deaths during the first 0-27 days of life) and postneonatal mortality (death at 28 days of age or later, but within the first year of life.)

The rate of infant deaths (infant mortality rate) is the number of deaths to children under one year per 1,000 live births.

Why is it important?

Infant mortality is recognized internationally as a critical indicator of the health of a population, with neonatal mortality being a strong indicator of maternal health.

The major causes of *neonatal deaths* include birth defects, preterm birth (short gestation), low birth weight, and pregnancy complications. Preterm births and low birth weight account for approximately 20% of all infant deaths.[11]

Causes of *postneonatal deaths* include infectious diseases, respiratory problems, sudden infant death syndrome (SIDS), birth defects, injuries and homicides. After the first month of life, SIDS is the leading cause of death among all racial and ethnic groups in the United States, representing nearly one-third of all *postneonatal* deaths nationally, and 1/4 (23%) of all *postneonatal* deaths in Maricopa County.[11]

Healthy People 2010 has set targets for reducing the infant mortality rate to 4.5 deaths per 1,000 live births. The targets for neonatal and postneonatal mortality are to reduce infant deaths to 2.9 and 1.5 per 1,000 live births, respectively.

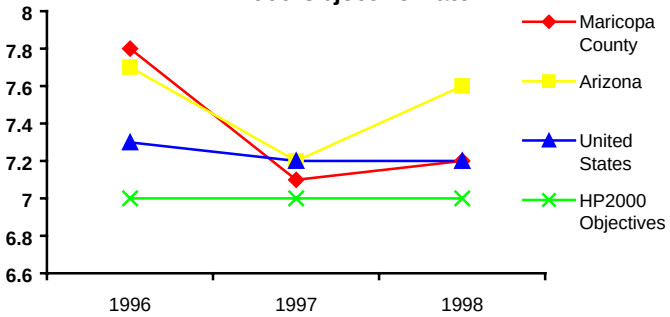
Causes of Infant Deaths, Maricopa County, AZ 1996-1998

	1996	1997	1998
Infectious Diseases	9	23	19
Congenital Anomalies	242	217	231
SIDS	26	28	32
Accidents / Intentional Injuries	12	16	12
Circulatory System	7	10	10
Respiratory System	31	22	32
Perinatal Conditions /Other	34	29	22
TOTAL	361	345	358

How are we doing?

- Maricopa County has not yet met the Healthy People 2000 Objective of 7.0 infant deaths per 1,000 live births. In 1996, the infant mortality rate (IMR) was 7.76 infant deaths per 1,000 live births. For 1997 and 1998, IMRs were 7.32 and 7.26 infant deaths per 1,000 live births, respectively.[12]

Infant Mortality Rates For Maricopa County, Arizona, and the US for 1996-1998 and HP2000 Objective Rate

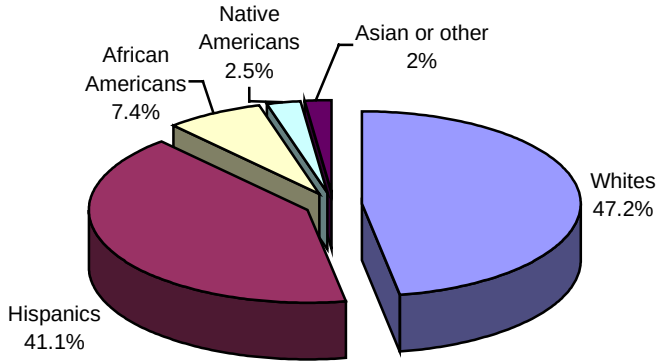


Source: ADHS 1998 Health Status and Vital Statistics report[2,13].

- From 1996 to 1998, on average, 352 infants died annually before reaching their first birthday. Nearly two-thirds of these deaths took place during the first 28 days of their lives (neonatal period).[14]

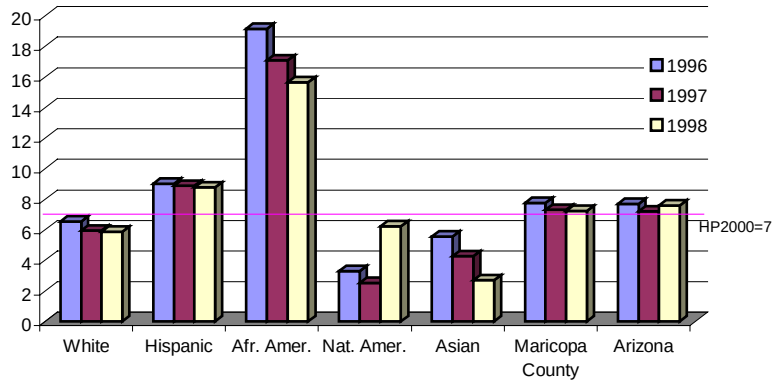
- From 1996 to 1998, 47.2% of the infant deaths were to White women, 41.1% to Hispanics, 7.4% to African Americans, 2.5% to Native Americans, and 1.9% to Asians or other racial/ethnic groups.[14]

Proportion of Infant Deaths by Race and Ethnicity, MC, AZ 1996-1998



- Substantial disparities exist in infant mortality rates between racial/ethnic groups in the United States as well as in Maricopa County. In Maricopa County African Americans had an infant mortality rate of 15.6 per 1,000 live births in 1998, compared to 8.8 for Hispanics and 5.8 for Whites.

Infant Mortality Rates by Race/Ethnicity, MC, AZ 1996-1998



- Despite the high infant mortality rate among African Americans, a declining trend is evident from 1996-1998. The infant mortality rate for African American has decreased from 19.1 in 1996 to 15.6 in 1998.

- African American children are still two times more likely to die during their first year of life than are White and Hispanic children.

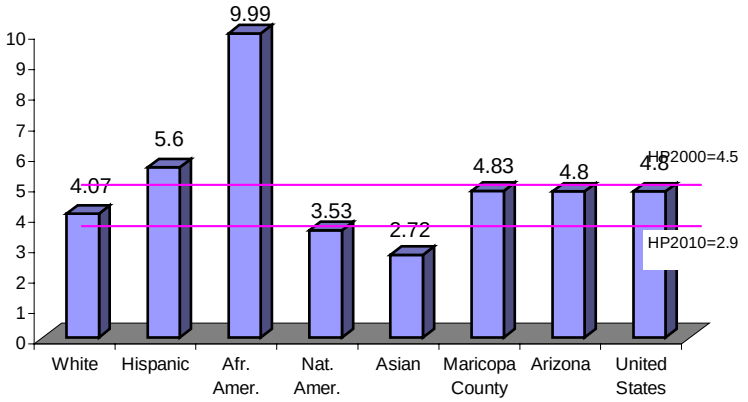
- In Maricopa County, Asians, Whites, and Native Americans have all achieved the Healthy People 2000 objective of 7 infant deaths per 1,000 live births, having rates of 2.7, 5.9, and 6.2 during 1998, respectively.

- Asians in Maricopa County have already surpassed the Healthy People 2010 target of 4.5 infant deaths per 1000 live births.

- Neonatal mortality accounted for 2/3 of all infant deaths in almost all racial ethnic groups (excepting Native Americans) in Maricopa Co. during 1996-1998, as expected (data not shown).

- Asians have already met the HP2010 target of 2.9 neonatal death per 1,000 live births when looking at the average of the years 1996-1998, with a rate of 2.7/1,000. Nationally, African Americans had a neonatal mortality rate of 9.4, while African Americans in Maricopa County had a rate approaching 10 per 1,000 live births.[15]

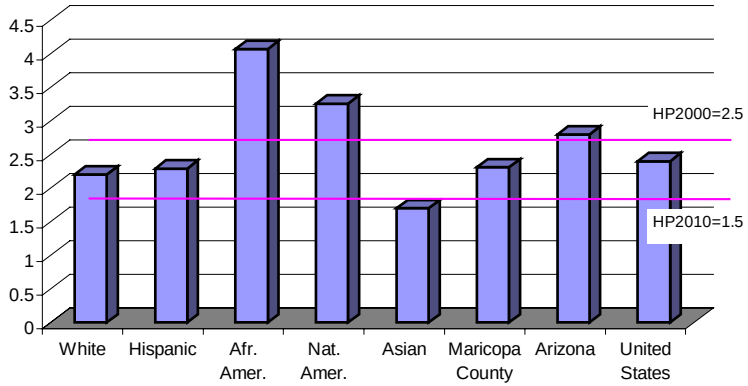
Neonatal Mortality Rate (per 1,000 live births) by Maternal Race/Ethnicity, MC, 1996-1998



- While 33% of infant deaths occur in the postneonatal period nationally, 48% of infant deaths to Native Americans in Maricopa County occurred during the postneonatal period. The elevated proportion of infant deaths in the postneonatal period among Native Americans has been a historical pattern. Adverse environmental conditions are the main risk factors for postneonatal deaths (i.e. injury, inadequate sanitation, malnutrition).

- African Americans and Native Americans had the highest rates of postneonatal mortality during the years 96-98, with averages of 4.1 and 3.3 per 1,000 live births respectively.

Post-Neonatal Mortality Rate (per 1,000 live births) by Maternal Race/Ethnicity, MC, AZ 1996-1998

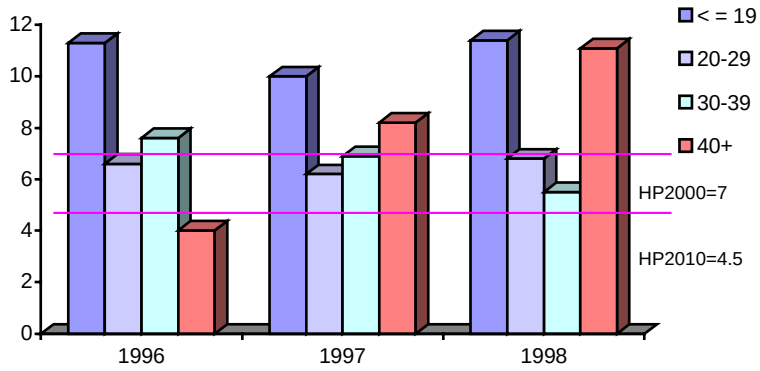


- African Americans and Native Americans are the only racial groups that have not met the HP2000 objective for postneonatal mortality.

- No racial or ethnic group met the HP2010 target for postneonatal mortality of 1.5 deaths per 1,000 live births.

- Universally, as well as in Maricopa County, infant mortality rates are higher for teenage mothers and comparatively lower in mothers in their 20s and 30s and increase again for mothers over 40 years of age.

Age Specific IMR, MC, AZ, 1996-1998

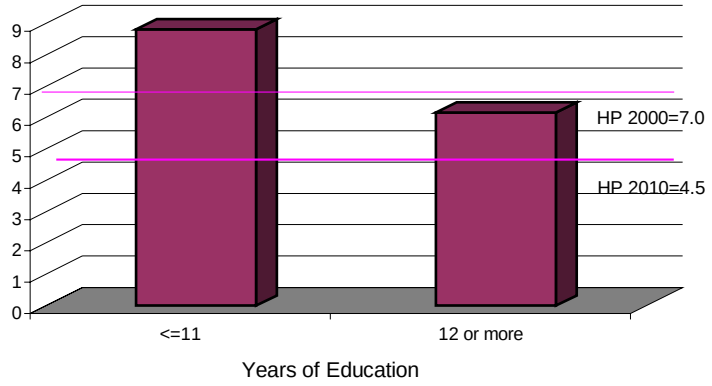


- There has been an increasing trend in IMR for women 40 and older from 1996 to 1998.

- Average neonatal mortality rates for 1996-1998 in Maricopa County followed the same pattern as infant mortality rates when broken down by maternal age group, with elevated rates among women 19 and younger (7/1,000) and among women 40 and older (6.1/1,000) (See Appendix tables).

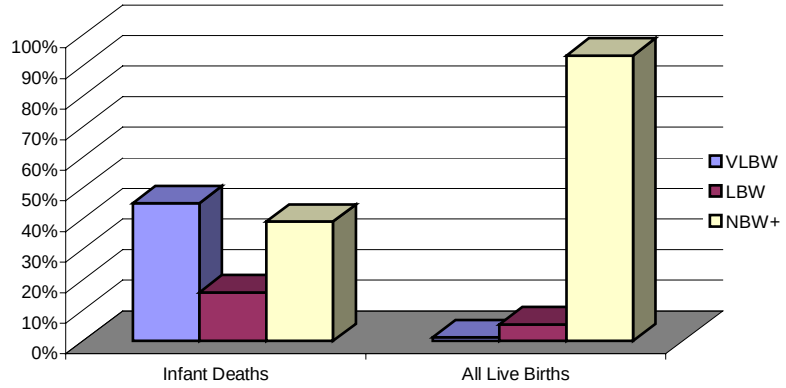
- Infant deaths were less frequent among mothers who had a high school education or more than among mothers with less than a high school education. It should be noted that women 19 and younger were included, possibly skewing the 11 and under years of education category.

Infant Mortality Rate by Maternal Education Level, MC, AZ 1996-1998



- When comparing the birthweight of deceased infants to all live births in Maricopa County during the years 1996-1998, a much higher percentage of deceased infants were LBW (16%) or VLBW (45%).

Percent Distribution of Birthweight Categories Among Infant Deaths and All Live Births, MC, AZ 1996-1998



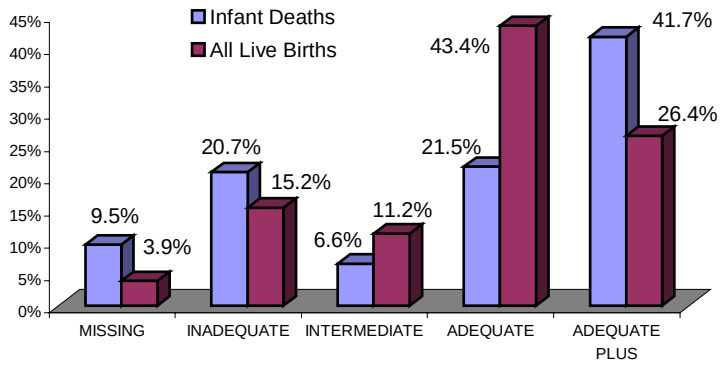
- 61% of all infant deaths in Maricopa County from 1996-1998 were low birth weight births, while only 6.7% of all live births were LBW.

- A higher percentage of mothers whose infants died received adequate plus prenatal care (based on Kotelchuck Index or the APNCU, see page 37) when compared to all live births in Maricopa County during the years 1996-1998.[16]

- The higher percentage of women receiving adequate plus prenatal care for mothers of deceased infants is not unexpected, as higher risk pregnancies will have a higher number of PNC visits and may initiate care earlier.

- There was a higher percentage of mothers whose infants died who received inadequate PNC, or who had unknown values for adequacy of PNC when compared to all live births.

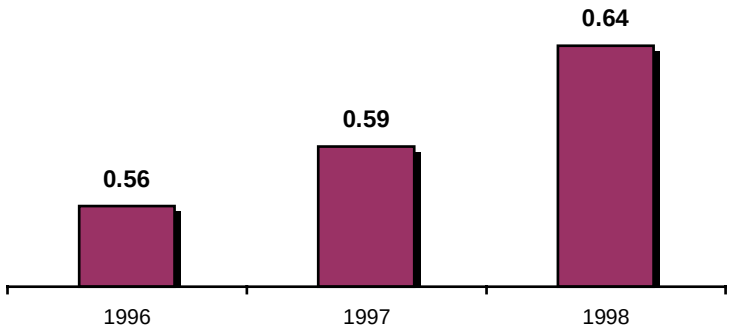
Comparison of Adequacy of PNC Utilization Between Mothers of Deceased Infants and All Live Births, MC, AZ 1996-1998



- Maricopa County has a long way to go in order to meet the HP2010 target of 0.3 SIDS deaths per 1,000 live births. The cause specific infant death rates for SIDS in Maricopa County for the years 1996-1998 were 0.56, 0.59 and 0.64 respectively. Nationally, the 1997 rate for SIDS deaths was .77 deaths per 1,000 live births.

- Although the rate of SIDS deaths in Maricopa County is increasing, forensic investigation of SIDS have increased since the inception of the Child Fatality Review Board in Arizona in 1994, possibly accounting for some of the rise in rates.

SIDS Deaths Per 1,000 Live Births, MC, AZ 1996-1998



What are we doing?

- The Office of Family Health Pregnancy Connection program provides comprehensive case management to high-risk pregnant women throughout Maricopa County to ensure that their basic needs are met, thereby improving pregnancy and birth outcomes. In fiscal year 1999, 773 women were case managed.

- The Office of Family Health has partnered with Baby Arizona to implement the South Phoenix Healthy Start project. The mission is to reduce infant mortality and low birth weight by conducting intensive outreach to promote early prenatal care. A large community consortium is working to create a high-quality, comprehensive health care delivery system that will meet the needs of pregnant women and their families in South Phoenix. South Phoenix was chosen for Healthy Start due to the highest infant mortality rates in the county and high rates of teen pregnancy.

- MCDPH participates in the Child Fatality Review Board to analyze causes of death that are preventable through system changes in order to reduce the child and infant mortality rates.

- The Family Planning Clinic provides free or low-cost reproductive health examinations and family planning methods to uninsured or underinsured low-income clients. These well women exams also include screening for sexually transmitted diseases and anemia. Preconception education is provided to ensure that clients are healthy and able to plan their future pregnancies, thus decreasing not only unwanted pregnancies, but also the risks of infant mortality and LBW associated with reproductive health problems and unwanted pregnancies.

- The Office of Family Health Community Development program monitors MCH needs in the community, assesses gaps or duplications in services, advocates for programs and policies to meet identified needs and promotes service coordination and community capacity building. The Maryvale Prenatal Care Public Awareness Project is an example of a project that has brought together providers and community residents to raise awareness of available services, increase knowledge of the importance of prenatal care, and advocate for needed services.

- The newborn intensive care program (NICP) and Women, Infants and Children (WIC) also address infant mortality. More detailed descriptions of these programs are provided in the Low Birth Weight and Preterm Birth section, and Nutrition and Neural Tube Defects section, respectively.

- Community Health Nursing administers an immunization program that provides protection from vaccine-preventable diseases for thousands of uninsured and underinsured children each year.

These free immunizations are available for children, from birth to 18 years of age, at 12 Public Health sponsored clinics throughout the county. In addition, there are 23 additional sites sponsored by community based agencies.

Recommendations

Assessment

- Identify risk factors leading to high infant deaths in minority groups, more specifically among the African American population.

- Continue geographic analysis of infant mortality.

Assurance

- Increase population knowledge and awareness of the benefit of having regular check-ups during pregnancy and neonatal period.

- Work with health care providers to ensure health education to pregnant women about the number of prenatal visits during pregnancy, nutrition, risk of smoking and alcohol consumption during pregnancy, weight gain during pregnancy and pre-term labor. Moreover, ensure the availability and accessibility to health education, information, and counseling.

Policy Development

- Develop and advocate for policies to reduce disparity in access to health care between ethnic/racial groups. African-American women are having more pre-term deliveries which ultimately lead to infant deaths. These risks can be identified and resolved during prenatal care, if one has access to health care.

- Implement the Pregnancy Risk Assessment Monitoring System (PRAMS) throughout Maricopa County to further address risk factors for infant mortality. PRAMS is a CDC designed surveillance system that collects information about risk factors from recently delivered women.

Low Birth Weight Rate and Preterm Birth Rate

Key Findings

- In Maricopa County, 6.7% of all live births were under 2,500 grams in 1998, and 1.2% were under 1,500 grams. Maricopa County has yet to meet the Healthy People 2000 objective of 5% low birth weight births and 1% very low birthweight births.

- During 1998, African Americans in Maricopa County were twice as likely to deliver a low birth weight infant than were all other racial ethnic groups combined.

- A proportion of low birth weight births can in part be attributed to a growing incidence of twin and higher order multiple births, particularly in women over the age of 35.

- Teenage women and women over the age of 35 are at the highest risk for preterm deliveries and low birth weight births.

Low Birth Weight Rate and Preterm Birth Rate

What are they?

The percentage of all babies born who weigh less than 2,500 grams (about 5.5 pounds) at birth is the low birth weight rate. The percentage of all babies born weighing less than 1,500 grams (about 3.3 pounds) at birth is the very low birth weight (VLBW) rate.

The percentage of all babies born before reaching 37 weeks of pregnancy (gestational age) is the preterm birth rate.

Why are they important?

Low birth weight and preterm births are two of the leading causes of infant mortality and morbidity, accounting for 20% of all neonatal deaths[17]. Both LBW and preterm births are associated with numerous long term disabilities, including cerebral palsy, autism, mental retardation, and vision and hearing impairment. Hospital costs associated with low birth weight babies are more than three times the cost of normal birthweight babies.[17]

There are a number of risk factors associated with increased risk of low birth weight babies and preterm births. Maternal use of alcohol, tobacco, or illegal drugs during pregnancy are major risk factors for LBW and preterm births. Socioeconomic status and maternal education also serve as predictors of LBW and preterm births. A previous history of LBW or miscarriages, domestic violence, maternal LBW, low pre-pregnancy weight and low pregnancy weight gain are all risk factors for LBW and preterm births[17].

Healthy People 2010 has a target of reducing low birth weight births and very low birth weight births to 5.0% and 0.9% of all births, respectively. The HP 2000 targets for LBW and VLBW were 5% and 1%, respectively. The 2010 target for preterm births is to reduce to 7.6% the percentage of preterm births, reducing births occurring at 32-36 weeks to 6.4% and those occurring at less than 32 weeks gestation to 1.1%.

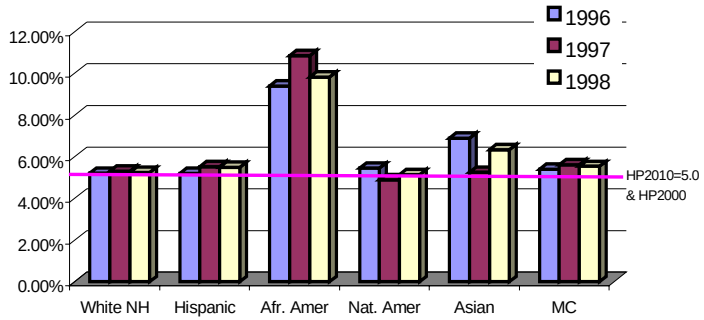
How are we doing?

- Arizona's LBW rate in 1998 was 6.8 per 100 live births[18].

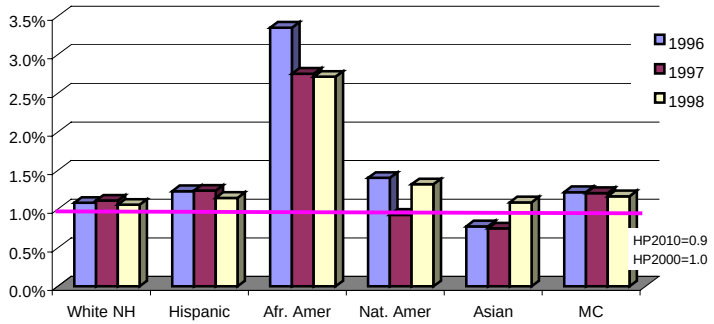
- In 1998, 6.7% (3,304) of the 49,324 live births in Maricopa County were less than 2,500 grams, and 1.2% (575) of all live births were less than 1,500 grams[19].

- In Maricopa County as well as the United States, substantial disparities exist in the percentage of LBW births between racial/ethnic groups.
- In the U.S. in 1998, African Americans had a LBW rate of 13.2 per 100, while the LBW rate for all ethnicities together was 7.6 per 100[20].
- Among African Americans living in Maricopa County, 12.5% of live births were less than 2,500 grams, with 9.8% being between 1,500 and 2,499, and 2.7% less than 1,500.

Percentage of Low Birth Weight Births (1500-2499 g) by Maternal Race/Ethnicity, MC, AZ 1996-1998

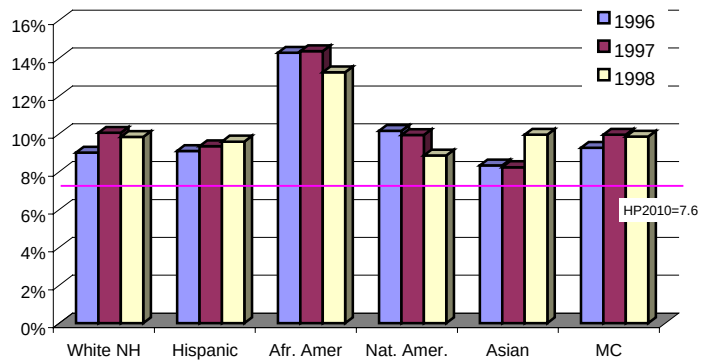


Percentage of Very Low Birth Weight Births (<1500 g) by Maternal Race/Ethnicity, MC, AZ 1996-1998



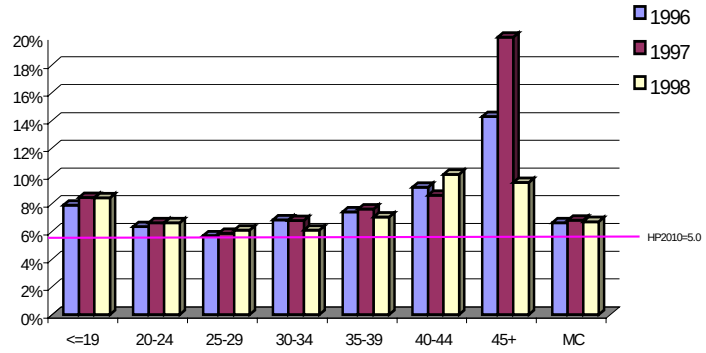
- Most preterm births are LBW births, and therefore often follow the same distribution across age groups or racial ethnic groups.
- A gap in the percentage of preterm births persists between African Americans and other racial/ethnic groups.
- The U.S. rate for preterm births in 1998 over all ethnicities was 11.6 per 100 live births. Among African Americans, the rate was 17.6 per 100. In Maricopa County, the preterm birth rate in 1998 was 9.9 per 100, and was 13.2 per 100 live births for African Americans.

Percentage of Preterm Births by Maternal Race/Ethnicity, MC, AZ 1996-1998



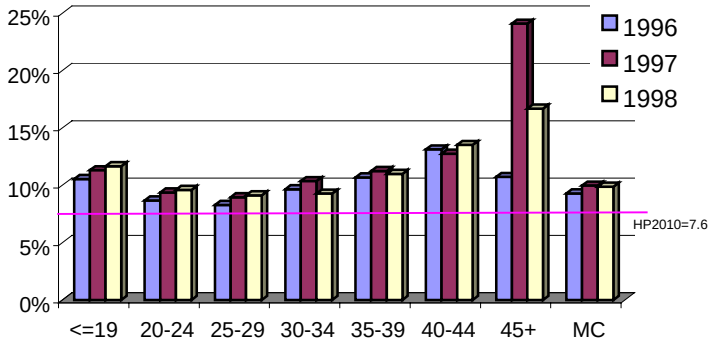
- No racial/ethnic group in Maricopa County has achieved the Healthy People 2010 target of a reduction in preterm births to 7.6%.
- The distribution of LBW births by mother's age group follows a J-shaped curve, with mothers 40 years of age and older being at the greatest risk, followed by teenage mothers (<=19 years of age). Mothers age 20-34 have the lowest prevalence of LBW births.

Percentage of LBW (<2,500 g) Births by Maternal Age Group, MC, AZ 1996-1998



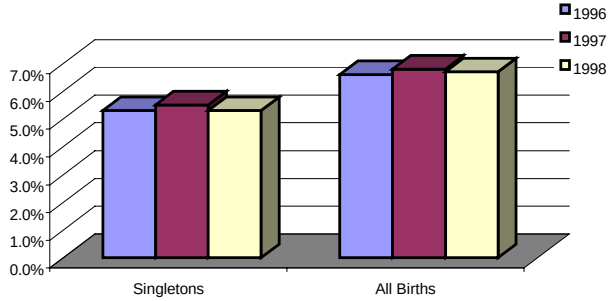
- Preterm births follow roughly the same distribution across maternal age groups as do LBW births, with mothers at either extreme having an elevated risk of delivering a preterm infant.

Percentage of Preterm Births by Maternal Age Group, MC, AZ 1996-1998



- One reason for the lack of a decrease in the proportion of LBW births during the last few years is the increasing incidence of twins and higher order multiple births[21]; however, multiple births still do not account for the discrepancy between racial and ethnic groups.

Percentage of LBW Births by Singletons and All Births, MC, AZ 1996-98



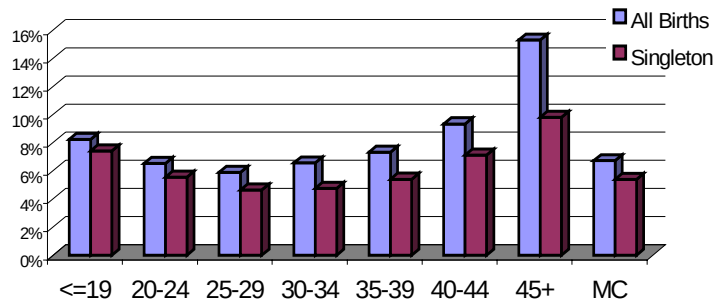
- The increase in incidence of twin and higher order multiple births has seen the most dramatic increase in older mothers. This may be due to the increased use of fertility drugs in women over 35 years of age.

- During 1998, twin or higher order multiple births accounted for 2.6% of the total births in Maricopa County, but accounted for 23% of the LBW births.

- In Maricopa County from 1996-1998, an average of 6.7% of all births were LBW, while 5.4% of all singleton births were LBW.

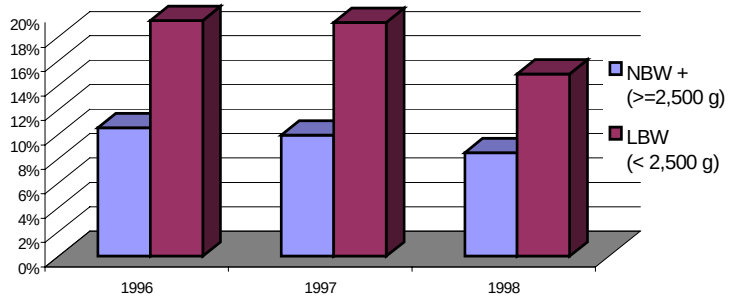
- When looking at LBW for all births versus singleton births stratified by maternal age group, the proportion of mothers age 45+ delivering LBW infants decreases markedly in the singleton category.

Percentage of LBW Births by Maternal Age Group, All Births versus Singletons (3 Year Average, 96-98)



- Alcohol and tobacco use have been well documented as risk factors for LBW and preterm births. Mothers using alcohol or tobacco continue to deliver a higher percentage of LBW babies.

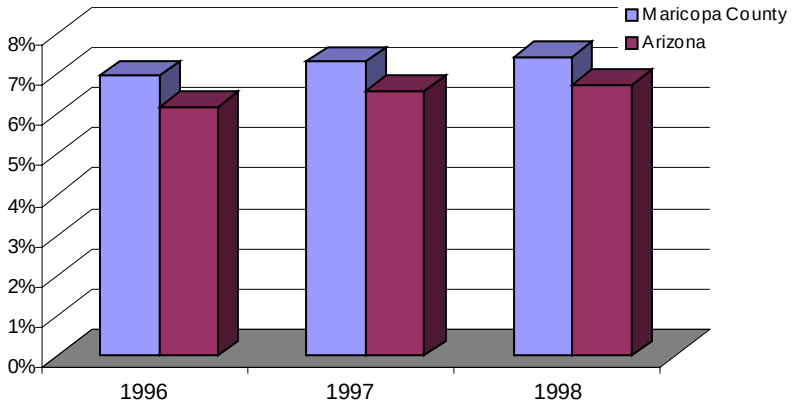
Percentage of Mothers Who Drank or Smoked by Infants Birthweight Category, MC, AZ 1996-98



- Infants that are born preterm are admitted to the neonatal intensive care unit and receive services from the Office of Women and Children's Health Newborn Intensive Care Program (OWCH NICP). Many are transferred to higher level hospitals better able to care for them.

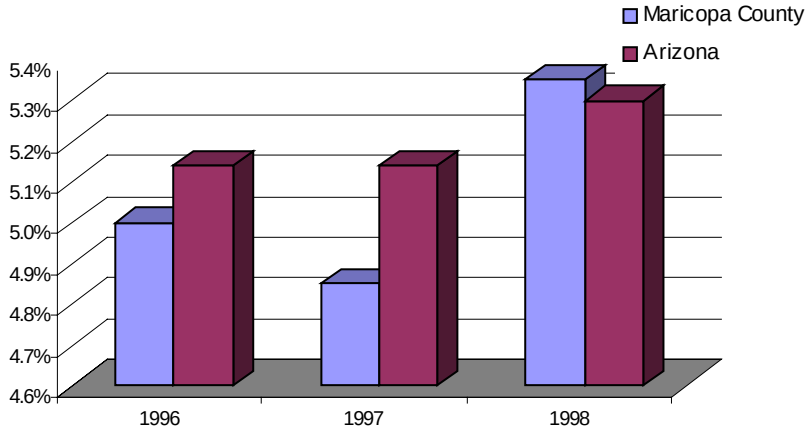
- Maricopa County consistently has a higher percentage of resident births admitted to the neonatal intensive care unit (three year average of 7.2%) when compared to the entire state (three year average of 6.5%).

Percentage of Live Births Admitted to Neonatal Intensive Care Unit, Maricopa County and Arizona



- In 1998 5.35% of all live births (2,640 births) in Maricopa County were enrolled in the OWCH NICP, while a total of 5.3% of the births in Arizona (4,128) were enrolled.

Percentage of All Live Births Enrolled in the OWCH NICP, Maricopa County and Arizona



What are we doing?

- The Public Health Department's Office of Family Health has partnered with Baby Arizona to implement the South Phoenix Healthy Start project forming a large community consortium to reduce all factors leading to adverse birth outcomes, including low birth weight.

- The Office of Family Health manages the Newborn Intensive Care Program, which is a home visitation program for infants discharged from Level II and Level III Hospital Neonatal Intensive Care Units. Eligibility is based on the baby staying a minimum 3 days in the NICU, and the parent's agreement to participate in the Program. There is no financial eligibility. After discharge, the family receives home visits from a public health nurse, and depending on the baby's and family's needs, can receive visits for up to three years. Nurses perform physical, developmental, social and environmental assessments, as well as provide parenting information and education. Support and advocacy are also provided, as needed, to help at-risk babies reach their optimal developmental potentials.

- The Maricopa County Tobacco Use Prevention Program (MACTUPP) funds local projects to provide prevention services to community members. More information about MACTUPP is provided in the section on Substance Abuse and Fetal Alcohol Syndrome.

- The Special Supplemental Nutrition Program for Women, Infants and Children (WIC) provides education and nutritious food to low income clients in Maricopa County. WIC is discussed in more detail in the Nutrition and Neural Tube Defects section.

Recommendations

Assessment

- Identify risk factors leading to disparities between racial/ethnic groups in LBW and preterm births, both at the county level and locally, through data being collected by PRAMS. PRAMS is a CDC designed surveillance system that collects information about risk factors from recently delivered women.

Assurance

- Increase population knowledge and awareness of effects of nutrition and alcohol and tobacco use on infant health and birth weight.

- Increase treatment options and outreach for pregnant women using alcohol, tobacco, or illegal substances.

- Increase knowledge of the importance of pre-pregnancy weight, pregnancy weight gains and nutrition, and the risks associated with higher order multiple births in older women.

Policy Development

- Policies and programs should be implemented to reduce disparity in access to health care (pre-conception, prenatal, and post-partum) between

ethnic/racial groups, and improve the access to care for lower socioeconomic groups.

- Policies to support programs aimed at preventing and reducing the use of alcohol and tobacco during pregnancy may contribute to a reduction in LBW and VLBW births.

Prenatal Care

Key Findings

- Maricopa County has not met the Healthy People 2000 goal of having 90% of pregnant women begin prenatal care in the first trimester. In 1998, 76% of pregnant women in Maricopa County began prenatal care during the first trimester.

- Mothers 19 and younger were the worst for first trimester entry into prenatal care, with only 60% beginning prenatal care during the first trimester.

- Hispanic women and African American women had the highest percentages receiving no prenatal care during all three of the years 1996-1998.

- In 1998, 3.4% of women 19 years of age and younger received no prenatal care during their pregnancy, and 44% of these women received less than adequate prenatal care.

Prenatal Care

What is it?

Prenatal care (PNC) is the pregnancy related health care a mother receives. It is recommended that a mother begin prenatal care during the first trimester of her pregnancy, and that she receive at least 13 visits during the course of a full term pregnancy.[22]

Why is it important?

Prenatal care reduces the incidence of perinatal illness, disability, and death by identifying potential risks and by intervening to reduce these risks when possible. Nutrition and weight gain education, parenting and child health education (such as recommended immunizations), instructions on correct recognition of normal and abnormal signs and symptoms, and instruction on how to achieve a healthy delivery are all part of prenatal care services. Prenatal care services also help women to address risky behavioral factors, such as smoking, alcohol, or drug use that can contribute to poor birth outcomes.[23]

The greatest benefits from prenatal care are achieved when mothers enter into prenatal care early in their pregnancy. Young maternal age (<19 years), lower educational attainment, high number of previous pregnancies, poverty, and unmarried status have all been associated with late entry into prenatal care.[24]

In addition to the timing of entry into prenatal care and the number of visits received, part of the evaluation of prenatal care services is based on the Adequacy of Prenatal Care Utilization index (APNCU). The APNCU index assesses the prenatal care a mother receives based on the number of visits, month of initiation of care, and gestational age at delivery. The mother is then assigned a score of either adequate plus, adequate, intermediate, or inadequate based on these criteria.[25]

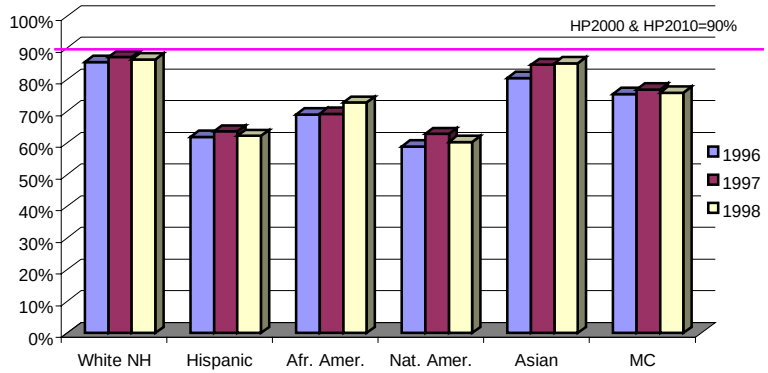
The Healthy People 2010 goal pertaining to prenatal care is to increase the proportion of pregnant women who receive early and adequate prenatal care. Specifically, the goal is to increase the number of mothers beginning care in the first trimester to 90% of all live births, and to increase the number receiving early and adequate prenatal care to 90% of all live births.[23]

How are we doing?

- From 1996-1998, an average of 76.1% of recently delivered mothers in Maricopa County began receiving prenatal care during the first trimester of their pregnancy. These percentages were 73.6% and 82.4% for Arizona and the United States, respectively.[26]

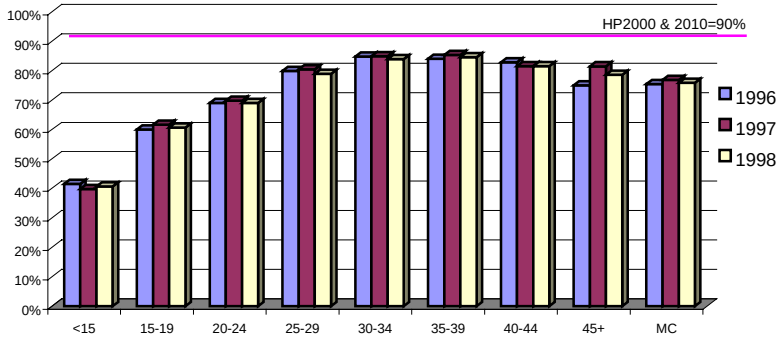
- While Maricopa County as a whole is well below the HP 2010 goal of 90% first trimester entry into prenatal care; greater gaps exist among racial and ethnic groups.

Percentage of Mothers Who Entered Prenatal Care During the First Trimester, MC, AZ 1996-1998



- During the period 1996-1998, Native Americans and Hispanics had the lowest percentage of mothers entering prenatal care during the first trimester, at 60.6% and 62.6% respectively.

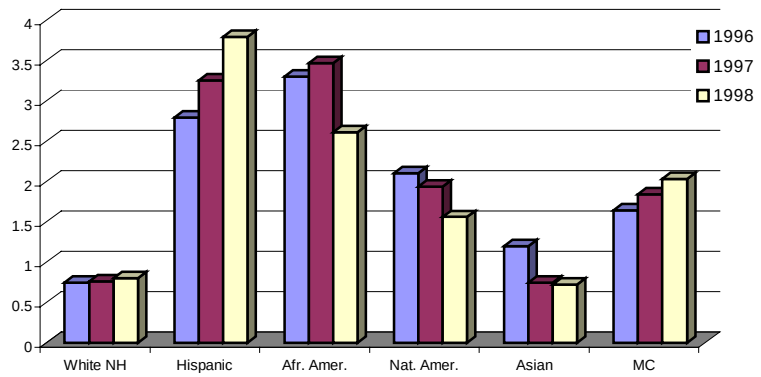
Percentage of Mother Receiving First Trimester Prenatal Care by Mothers Age Group, MC, AZ 1996-1998



- Mothers 19 and younger had the lowest percentage initiating prenatal care during the first trimester among all the age groups. During 1998, only 41% of mothers younger than 15 and 61% of mothers aged 15-19 entered PNC during the first trimester.

- Percentages of mothers receiving no prenatal care followed patterns similar to those of women with late entry into prenatal care, with minorities and young mothers having poor rates.

Percentage of Mothers Receiving No Prenatal Care by Maternal Race/Ethnicity, MC, AZ 1996-1998

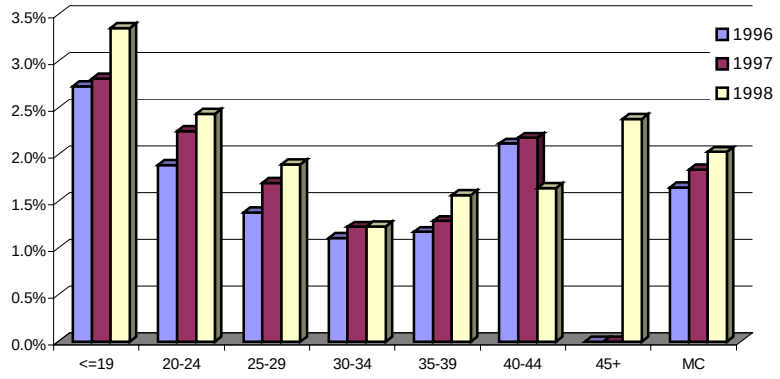


- Hispanics had the highest rate for receiving no prenatal care, at 3.8% in 1998, followed by African Americans with 2.6% receiving no prenatal care during 1998.

- Although the percentage of African Americans and Native Americans receiving no prenatal care has decreased over the past 3 years, the percentage of Hispanics receiving no prenatal care has increased, driving the overall county rate up as well.

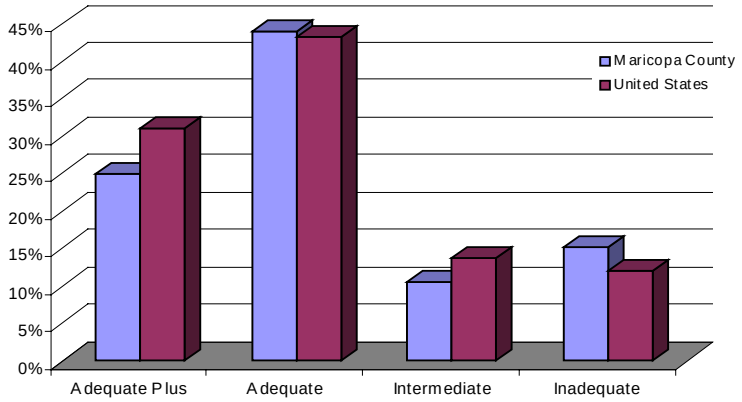
- Teenage mothers are more likely to have received no prenatal care, as are mothers over 40. There has been an increasing trend among almost all age groups of more mothers receiving no PNC.

Percentage of Mothers Receiving No Prenatal Care by Mothers' Age, MC, AZ 1996-1998



- Only 69% of mothers received early and adequate prenatal care (Adequate + Adequate Plus using the APNCU) in 1998 in Maricopa County, well below the HP 2010 target of 90%, and below the US rate of 74.3%.[26]

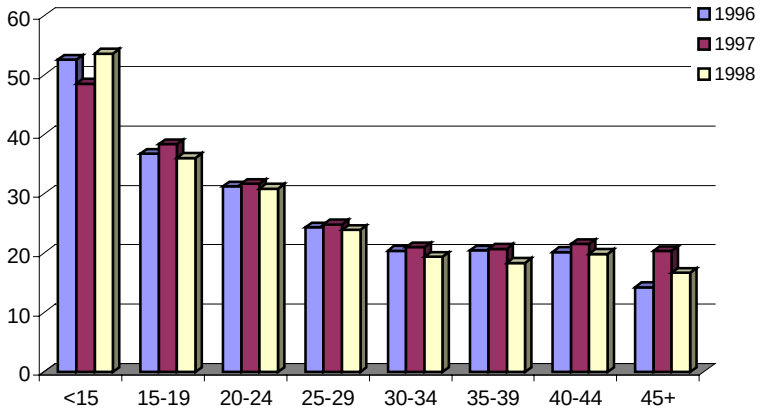
Percent Distribution of Mothers by Adequacy of Prenatal Care Utilization Index for Maricopa County and the US, 1998



- There was a steady decrease in the percentage of mothers with less than adequate PNC as maternal age increases, leveling off at about age 30.

- The racial/ethnic groups with the highest percentage of mothers with less than adequate PNC utilization for

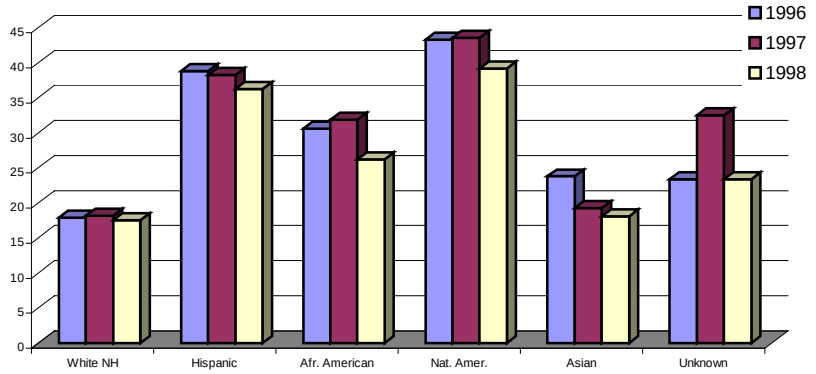
Percentage of Mothers Receiving Less Than Adequate PNC by Maternal Age Group, MC, AZ 1996-1998



1998 were Native Americans (39.2%), followed by Hispanics (36.3%) and African Americans (26.2%).

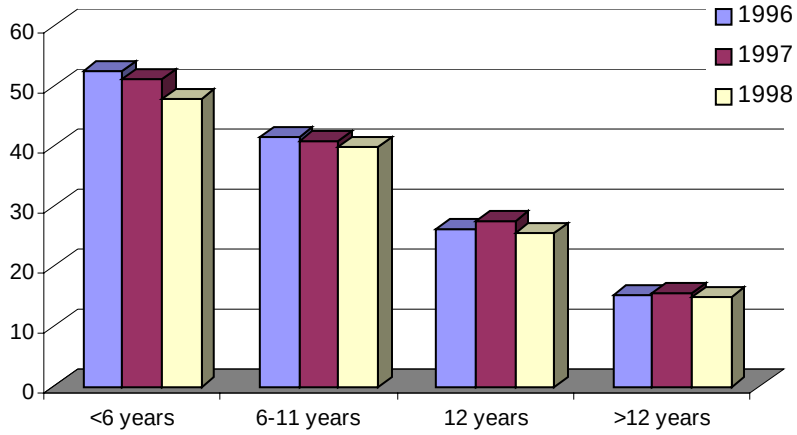
- None of the racial/ethnic groups have met the HP 2010 objective of 90% receiving early and adequate PNC utilization.

Among Each Racial Ethnic Group, Percentage of Mothers With Less Than Adequate Prenatal Care Utilization, MC, AZ 1996-1998



- The percentage of mothers receiving less than adequate prenatal care (Intermediate + Inadequate) decreased as the educational attainment of the mother increased.

Percentage of Mothers With Less Than Adequate Prenatal Care Utilization by Maternal Education Level



What are we doing?

- The Office of Family Health Pregnancy Connection program provides case management services to high-risk pregnant woman in Maricopa County, particularly women with high risk social, behavioral, and/or medical factors. Examples of services offered include referral and follow-up to prenatal care, assistance with AHCCCS application process, referrals for basic necessities (food, shelter, clothing) and transportation assistance.

- The Family Planning Clinic provides low-cost pregnancy testing. All women who test positive are screened by Pregnancy Connection case managers for risk factors and are referred for services as appropriate.

- The Care-A-Van is a mobile van that provides ongoing primary care to eligible clients. The services include well child, well adult (includes well women) and non-acute services such as care for diabetes, hypertension, asthma, urinary tract infection, and upper respiratory infection. Referrals are made to community agencies for services not offered.

- Health Care for the Homeless (HCH) provides prenatal care to homeless women in Maricopa County. If specialty care is medically neede for complicated obstetric patients, these patients are referred to Marcicopa County Medical Center OB Clinics.

- The Special Supplemental Nutrition Program for Women, Infants and Children (WIC) provides education and nutritious food to low income clients in Maricopa County. WIC is discussed in more detail in the Nutrition and Neural Tube Defects section.

Recommendations

<u>Assessment</u>

- Identify factors contributing to late entry into prenatal care, particularly for minority groups and teenage mothers.

- Institutionalize PRAMS as a county wide surveillance system to improve understanding of barriers to receiving prenatal care.

<u>Assurance</u>

- Emphasize importance of receiving prenatal care early and often.

- Increase prenatal care service availability for high risk mothers and for teenagers.

- Increase the proportion of women in Maricopa County receiving at least a high school education.

Policy Development

- Develop programs to assist minority women and young mothers with entry into prenatal care during the first trimester of their pregnancy.
- Target teenage mothers, minority, and other high risk women with an educational campaign emphasizing the importance of receiving prenatal care early and often.
- Implement policies to support and encourage women to complete high school.

Child and Adolescent Health

Key Findings

Teenage Pregnancy

- The teen birth rate in 1998 for Maricopa County was 68.4 births per 1,000 teens, compared with a rate of 80.2 per 1,000 in 1991. This represents a 15% decline in teen births from 1991 to 1998.

- Hispanic teens under 19 years of age had the highest teen birth rates (71.3 per 1,000 teens), followed by Native Americans (38.7 per 1,000 teens), African Americans (31.6 per 1,000 teens), Whites (15.3 per 1,000 teens) and Asians (8.5 per 1,000 teens)

Asthma

- The age specific rate for asthma among children 4 years and younger was 45 per 10,000 population of children under five.

- Among children under 5 years of age, males were more likely to be hospitalized for asthma complications.

Oral Health

- In 1990, 43% of school children six to eight years old had untreated dental decay in Maricopa County.

Child and Adolescent Health

Teenage Pregnancy

What is it?

Teens or teenagers include pre-adolescents (10-14 years old) and adolescents (15-19 years old). The teen pregnancy rate is calculated as the number of pregnancies (births, abortions, and fetal losses) per 1,000 teens. Due to insufficient data on fetal losses and underreporting of induced abortions, birth rates are used here rather than pregnancy rates. Birth rates are calculated as the number of births per 1,000 population.

Teenage birth rates are usually presented by age categories of younger than 15 years of age (<15), 15-17 years of age, and 18-19 years of age due to large variation in pregnancy rates in specific teen age groups.

Why is it important?

Adolescent pregnancy is one of the most pressing and persistent problems facing society. Each year in the United States 800,000-900,000 girls 19 years of age and younger become pregnant.[27] Ninety-five percent of these pregnancies are unintended, and almost one third end in abortions.[28]

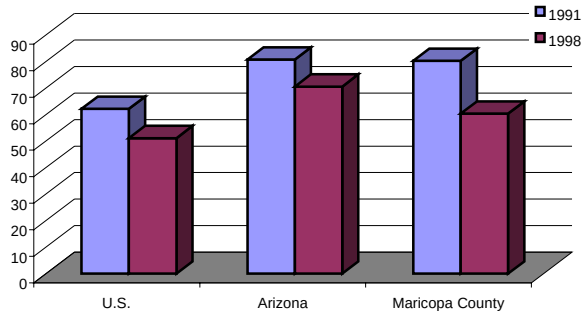
Teen pregnancy is a costly issue for society and often commits the mother to a life of poverty. A large majority of teen mothers are dependent on Medicaid (known as AHCCCS in Arizona) for payment for labor and delivery. From 1985 to 1990, $120 billion in public costs were incurred as a result of teenage childbearing; an estimated $48 billion could have been saved if each birth had been postponed until the mother was 20 years old.[28]

Healthy People 2000 objectives pertaining to adolescent pregnancies are to reduce the pregnancy rate among women aged 15-17 to 50 per 1,000. Healthy People 2010 has not set objectives related to adolescent pregnancies.

How are we doing?

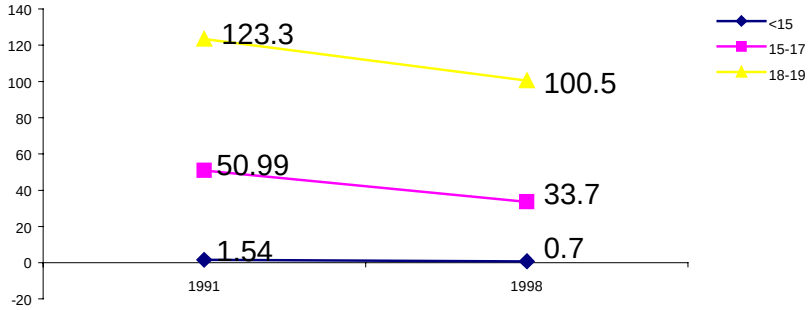
- The national birth rate of 62.1 per 1,000 teens in 1991 dropped to 51.1 in 1998. Arizona ranked fourth for having the highest teen birth rate in 1991 (80.7 per 1,000 teens) and sixth highest in 1998 (70.5 per 1,000 teens). The teen birth rates for Maricopa County declined from 80.2 per 1,000 teens in 1991 to 60.3 in 1998.

Birth Rates Per 1,000 Among Females 15-19 Years, MC, AZ 1991,1998



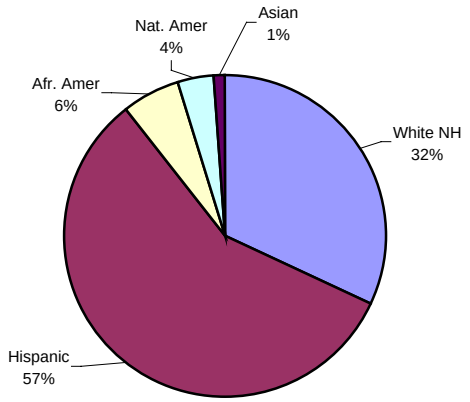
- The age-specific teen birth rates in Maricopa County in 1998 for teens <15, 15-17, and 18-19 years of age were 0.7, 33.7, and 100.5 per 1,000 teens respectively.

Teen Birth Rates by Teen Age Group, MC, AZ 1991, 1998



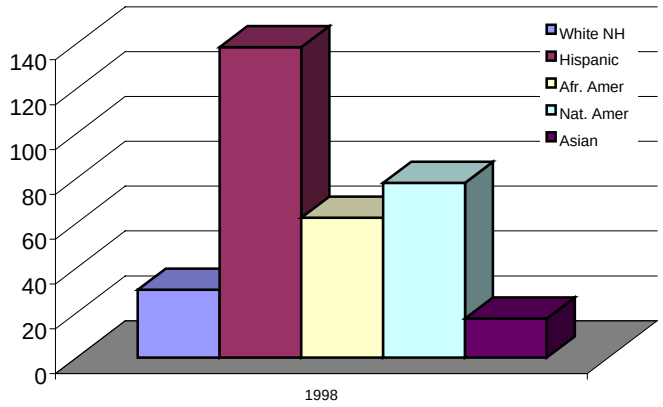
- Hispanics comprised the largest proportion of all teenage births (57.4%), followed by White Non-Hispanic (32.0%), African American (5.8%), American Indian (3.7%), and Asian teens (1.1%).

Proportion of Births to Women 19 and Younger by Maternal Race/Ethnicity, MC, AZ 1998



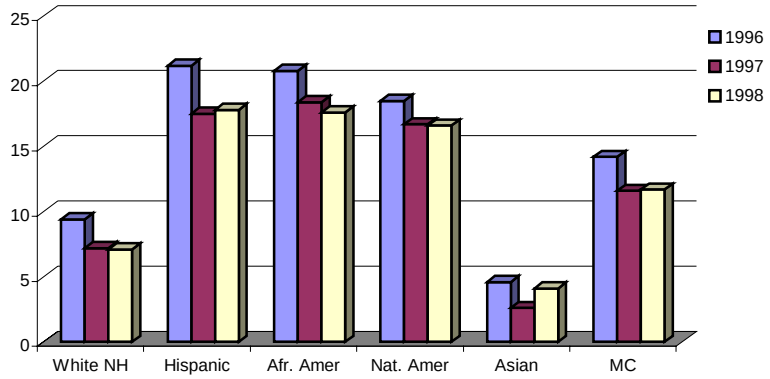
- The racial/ethnic specific teen birth rates for 15-19 year olds in 1998 were 140.4/1,000 for Hispanics, 78/1,000 for Native American, 62.4/1,000 for African American, 30.3/1,000 for Whites, and 17.5/1,000 for Asians.

Racial and Ethnic Specific Teen Birth Rates Among Teens Age 15-19, MC, AZ 1998



- Since 1996, there has been a decreasing trend in the proportion of births to teenagers among Whites, African Americans, and Native Americans. Hispanics and Asians both had slight increases in the proportion of births to teenagers during 1998.

Percentage of Births to All Teens (<=19) in Each Racial/Ethnic Group, MC, AZ 1996-1998



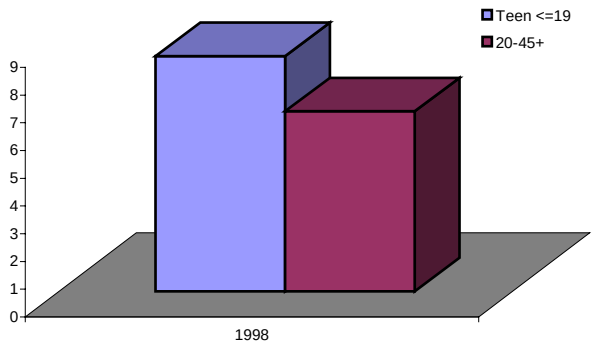
- Among all the births in Maricopa County in 1998, 11.7% were born to teen mothers. Among all low birth weight babies in Maricopa County in 1998, 14.8% were born to teen mothers as well.

Status of Low Birth Weight Births to Teenagers in MC, 1998

	LBW (<2,500g)		All Births	
	n	%	n	%
Women 20+	2816	85.2	43534	88.3
Women <=19	488	14.8	5790	11.7
All Births	3304	100	49324	100

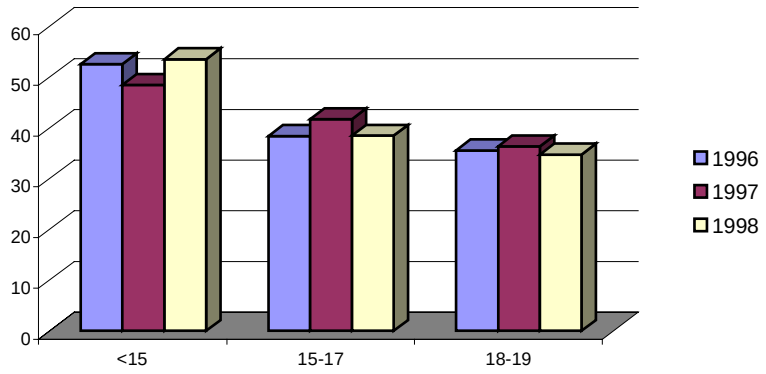
- Among all women over 19 years of age, 6.5% births were low birth weight (<2,500 g) babies compared to 8.5% births to all women 19 years of age and younger.

Proportion of Low Birth Weight in Maternal Age Group, MC, AZ 1998



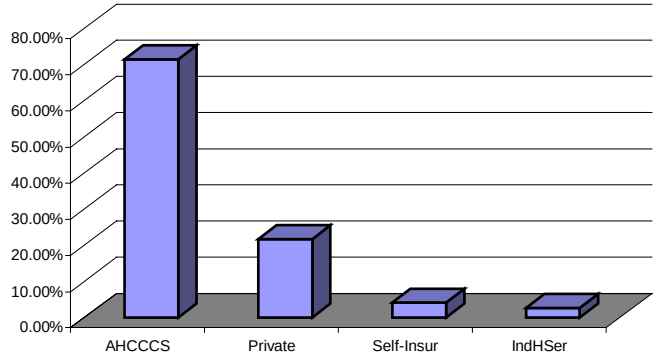
- As teen age increased, the proportion of mothers receiving adequate or better prenatal care also increased.

Percentage of Mothers Receiving Less Than Adequate Prenatal Care by Teen Age Group, MC, AZ 1996-1998



- 21.7% of teens had private health insurance and over 71% were on AHCCCS.

Source of Payment for Labor and Delivery Among Teen Births, MC, AZ 1998



Child and Adolescent Health

Asthma

What is it?

Asthma is a lung disease characterized by airway constriction, mucous secretions, and chronic inflammation, resulting in reduced airflow, wheezing, and difficulty breathing.[29]

Asthma and chronic obstructive pulmonary disease are among the ten leading chronic conditions causing restriction of activity.[29] Asthma is the second most common chronic disease of childhood in the United States (first is dental diseases).

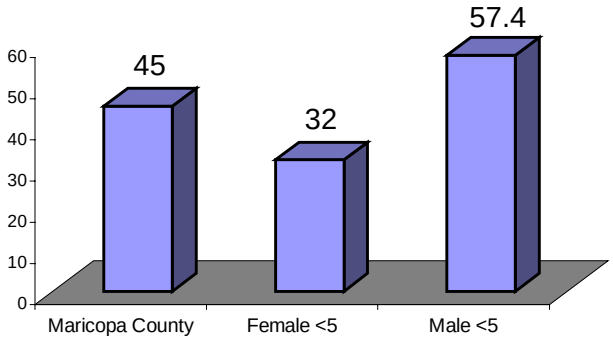
Why is it important?

Asthma is a serious and growing health problem. An estimated 14.9 million persons in the United States have asthma. In 1996 it was the tenth most common principal diagnosis in emergency department visits and was responsible for about 500,000 hospitalizations, 5,000 deaths, and 134 million days of restricted activity a year in the U.S. Direct medical expenditure for asthma accounted for $3.64 billion in 1990.

How are we doing?

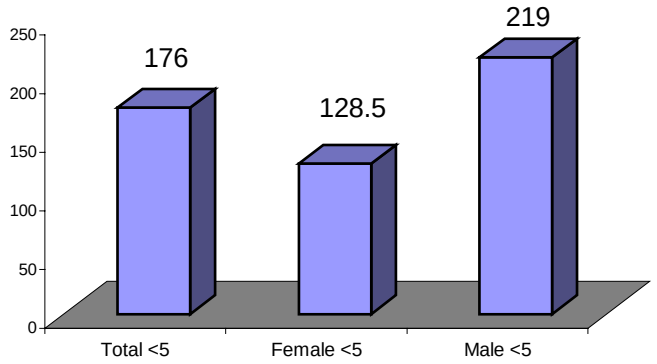
- The 1998 hospital discharge data for Maricopa County showed 338 per 100,000 hospital discharges were children under five years old (<5 years) with asthma.
- Age specific rates of asthma among children five years and younger were 45 per 100,000 population in 1998.
- The age and sex specific rate was 32.1/100,000 for females and 57.4/100,000 for males <5 years of age.

Asthma Rate Among Children Under 5 Years, Per 10,000 population, by Gender MC, AZ 1998

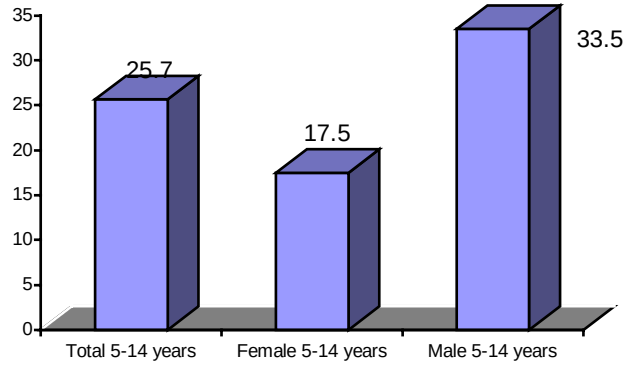


- The age and sex specific asthma discharge rate was 176 cases per 100,000 discharges for children under five in 1998. The 1998 age and sex specific rate was 128.5/10,000 discharges for females under five and 219/10,000 for males younger than five.

Age, Sex, and Cause-Specific Asthma Discharge Rate per 10,000 population, MC, AZ 1998



Age and sex specific Asthma rate among children 5-14 years, in Maricopa County, 1998



- The age specific rate for asthma among children between 5-14 years of age was 25.7 per 10,000 population. The sex specific rate for 5-14 year olds was 17.5 per 10,000 for females and 33.5 per 10,000 for males in 1998.

Child and Adolescent Health

Oral Health

What is it?

Oral Health is an essential component of health. Dental caries are the number one chronic childhood disease in the United States, occurring five to eight times as frequently as asthma.[29]

Why is it important?

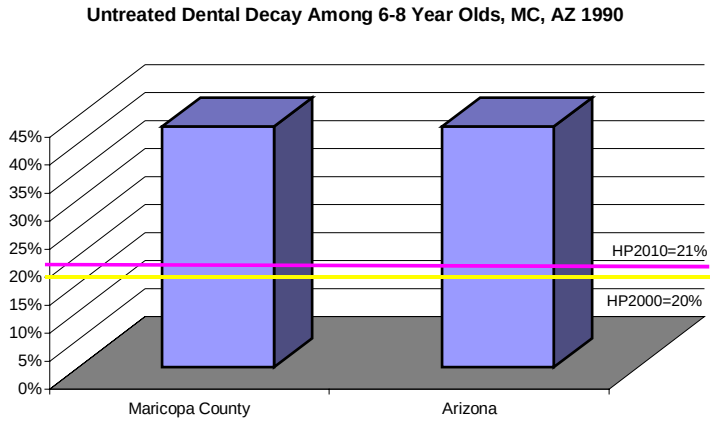
Millions of people in the U.S. experience dental caries, periodontal diseases, cleft lip and cleft palate, resulting in difficulty speaking, chewing, and swallowing. Other consequences include excessive pain, increased health care costs, and loss of school and work days resulting in decreased economic productivity.

Early childhood caries affect the primary teeth of infants and young children 1-6 years of age.[30] More than half of all children in the U.S. have dental caries before reaching the second grade. By the time students finish high school, approximately 80% have caries when left untreated.[29]

In addition to the direct effects of periodontal disease, poor oral health has been linked to a number of chronic diseases, including diabetes, heart disease, and adverse pregnancy outcomes. Oral health is considered to be an indicator of the general health and well being of a person, and has also shown a relationship with overall quality of life.[31]

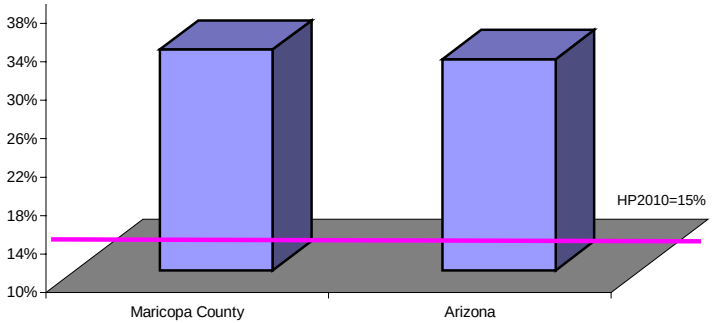
How are we doing?

- The Healthy People 2010 goal for the prevalence of untreated dental decay in children 6-8 years of age is 21%, higher than the HP2000 objective of 20%. Both Maricopa County and the State of Arizona were at 43% for untreated dental decay among 6-8 year olds in 1990.



- The HP2010 objective for the prevalence of untreated dental decay among 11-13 year olds is 15%. The prevalence of untreated tooth decay in 11-13 year olds was 33% for Maricopa County and 32% for Arizona.

Untreated Dental Decay Among 11-13 Year Olds, MC, AZ 1990



Child and Adolescent Health

What are we doing?

Teenage Pregnancy

- The Office of Family Health Pregnancy Connection program provides comprehensive case management to pregnant teens. Specialized services include finding housing, helping teens to tell a family member about the pregnancy, and making referrals for teen dads.

- The Office of Family Health administers a teen pregnancy prevention project at the Tolleson Union High School District. The program trains Juniors and Seniors as Peer Counselors to provide education in Freshman Wellness classes.

- The Family Planning Clinic services are available to teenage girls and provide education on women's health during each visit.

Asthma

- The Maricopa County Department of Public Health/Division of Community Health Services has been a principal participant in the Maricopa Allies Against Asthma Coalition (MAAAC), an effort to address asthma morbidity and mortality in Maricopa County. MAAAC's efforts include proposals to secure funding for childhood asthma activities and to develop meaningful community collaboration in South Phoenix, specifically with the use of Community Action Teams. MCDPH is also a member of the statewide Arizona Asthma Coalition.

Oral Health

- The Office of Oral Health (OOH) is administering a state-sponsored dental sealant program for second and sixth grade students in Maricopa County. Schools with a 75% or greater free and reduced lunch rate are eligible for the tooth decay prevention service. In conjunction with Arizona Department of Health Services, OOH is conducting ongoing dental surveys designed to provide dental needs assessment data to communities within Maricopa County. Currently, OOH is creating oral health/total health training materials and training opportunities to increase community awareness about the health risks of periodontal disease.

- Women, Infants, and Children (WIC) and Pregnancy Connection make referrals for pregnant women for dental health issues as necessary.

Recommendations

Assessment

- Assess the factors associated with early sexual activities among young girls and boys, possibly utilizing the Youth Risk Behavior Surveillance System survey tool.
- Identify barriers to prenatal care among teens through PRAMS.

Assurance

- Increase population knowledge and awareness about risks associated with teen pregnancy, especially low birth weight.
- Inform community of the economic burden associated with teen pregnancy.
- Increase knowledge and awareness in teens of the benefit of receiving prenatal care during pregnancy.
- Promote health education to teens and their parents about abstinence and options for preventing unintended pregnancies.

Policy Development

- Develop and advocate for policies to reduce teen pregnancy, especially considering high teen birth rates among minority populations.
- Consider implementation of dental check-ups as a part of regular prenatal care for all pregnant woman.
- Consider program for screening of all pre-school children for dental caries.
- Develop and advocate for policies to increase availability of dental services and expand access to dental care for children and teens.

Nutrition and Neural Tube Defects

Key Findings

- In 1998, Maricopa County's Neural Tube Defect (NTD) rate was 5 per 10,000 live births among children born to teenage mothers (15-17 years old).

- Infants of Hispanic mothers had a NTD rate of 2.6 per 10,000 live births (average rate for 1996-1998).

Nutrition and Neural Tube Defects

What is it?

Healthy diets provide the amount of essential nutrients and calories to prevent nutritional deficiencies and excesses. A good balance of carbohydrates, fats, and protein can be obtained by eating a variety of foods and by following the recommended servings in the food guide pyramid.[32]

Neural tube defects (NTD) are a set of congenital birth defects involving incomplete development of the nerve and bone structures that make up the head, brain, and spinal column. Anencephaly (absence of all or part of the brain) and spina bifida (incomplete closure of the backbone or spinal column) are the two most common NTDs. NTDs may result in motor paralysis, incontinence, sensory loss, still birth and infant death.

Why are they important?

Nutritional deficiencies have a substantial impact on the burden of disease and death in the United States. Adequate nutrition is essential to the development of the fetus and for post-partum health of an infant.

During the first year of life, breastfeeding is considered to be "the ideal method of feeding and nuturing infants."[33]

Breastfeeding has a wide range of beneficial effects on the health of an infant. Decreased incidence of diarrhea, fewer infections, lower incidence of allergies and decreased adolescent obesity have all been associated with breastfeeding.[34] Additionally, maternal health indicators improve with breastfeeding, including reduction in post partum bleeding, earlier return to pre-pregnancy weight, reduced risk of premenopausal breast cancer, and reduced risk of osteoporosis.[34]

Research indicates that both genetic and environmental risk factors are associated with NTDs.[38] Most NTDs are believed to be multifactorial in origin. Socioeconomic status, lead in drinking water, maternal heat exposure, maternal obesity, parental occupation, and maternal nutritional status have all been associated with NTDs. Folic acid is a nutritional factor that has been shown to have a powerful protective effect on the occurrence of NTDs. The occurrence of spina bifida and other neural tube defects could be reduced by 50% if women consumed adequate amounts of folic acid before and during pregnancy.[33]

Healthy People 2000 and 2010 set targets to increase the proportion of mothers who breastfeed their babies in the early postpartum period (the six week period immediately following birth) to 75%, increase those breastfeeding at 6 months to 50%, and increase the percentage of mothers breastfeeding at one year to 25%.

The targets for reducing the incidence of spina bifida and other neural tube defects are to reduce to a rate of 3 incident cases per 10,000 live births.

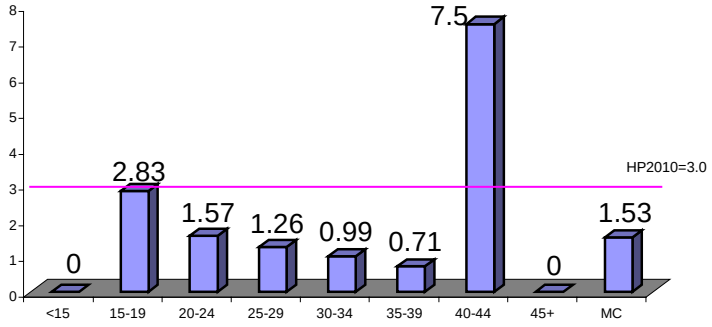
How are we doing?

- Rates for breastfeeding in the United States were 58.1% for mothers ever breastfeeding their infant in 1993-1994.[35]

- 1997 national rates for mothers breastfeeding at 5 to 6 months postpartum were 29% among white mothers, 24.5% among Hispanic mothers, and 14.5% among African American mothers.[36]

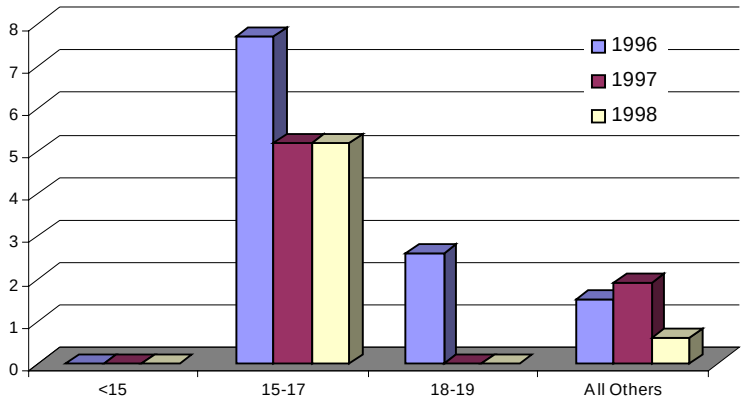
- We will be adding data on breastfeeding and nutrition from Women, Infants, and Children in the future, as well as PRAMS data.

Neural Tube Defect Rate (1996-1998) per 10,000 Live Births, by Maternal Age Group



- Average NTD rates (1996-1998) in women 40-44 were high (7.5 per 10,000 live births); however, this rate is statistically unreliable due to the small number of cases involved (2 cases over three years). In addition, birth certificate records underestimate the prevalence of all birth defects.

NTD Rate (per 10,000 live births) by Adolescent Age Group, MC, AZ 1996-98

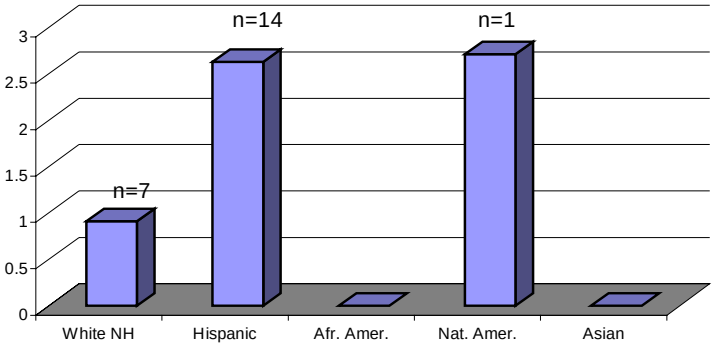


- Teenage mothers in Maricopa County have a higher risk of delivering a child with a neural tube defect than do older mothers. Among teenagers, mothers age 15-17 have had elevated rates of neural tube defects in Maricopa County (thus far we have been unable to confirm whether this is a national trend or not). This is particularly noteworthy when considering literature has shown mothers having an NTD affected

pregnancy are at 20 times the risk of having another NTD affected pregnancy.[37,38]

- Among racial ethnic groups in Maricopa County, Native Americans had the highest NTD rate during the years 1996-1998 at 2.7/10,000 live births. However, this rate is unreliable, again due to the small number of cases (<5 over 3 years.)
- The Hispanic population had the highest reliable rate of NTD in Maricopa County at 2.6 cases per 10,000 live births.

NTD Rate (Three Year Average) per 10,000 Live Births, by Maternal Race/Ethnicity, MC, AZ 1996-1998



What are we doing?

- The Public Health Department's Office of Nutrition Services administers the Special Supplemental Nutrition Program for Women, Infants, and Children each month to more than 69,700 women (pregnant and post-partum), infants and children under the age of 5 at 14 sites throughout the county. Services provided include health assessment, education and nutritious food to low-income clients at medical and nutritional risk.
- The Pregnancy Risk Assessment Monitoring System (PRAMS) is being implemented in Maricopa County and will provide data pertaining to breastfeeding and other maternal and child health indicators.

Recommendations

Assessment

- Collect primary data pertaining to breastfeeding habits of recently delivered mothers in Maricopa County to establish baseline breastfeeding rates.
- Assess barriers to receiving adequate dietary folic acid intake for women of child bearing age through PRAMS data collection.
- Consider collecting breastfeeding status for babies younger than 12 months presenting at immunization clinics.

Assurance

- Promote pregnancy counseling emphasizing the importance of breastfeeding to the health of mother and child.

- Improve integration of concepts of healthy diet and regular exercise into teen pregnancy prevention and health education classes, and integrate with women's health services and health professional education curricula.
- Promote education related to pregnancy weight gain and nutrition.

Policy Development

- Institutionalize PRAMS in Maricopa County to maintain surveillance of breastfeeding rates and to improve understanding of barriers to adequate dietary folic acid intake and other pregnancy risk factors.

Substance Abuse and Fetal Alcohol Syndrome

Key Findings

- In 1998, 91% of all mothers in Maricopa County abstained from tobacco, compared to 87.1% for mothers nationwide.
- Women 45 and older have already met the HP 2010 Objective of 98% abstinence from tobacco during pregnancy.
- 99.3% of all mothers abstained from alcohol during 1998, better than the HP2010 Objective of 94%.
- All racial and ethnic groups in Maricopa County have met the HP2000 Objective of 94% abstaining from alcohol during pregnancy, as well as the HP 2010 objective of 95% abstinence.

Substance Abuse and Fetal Alcohol Syndrome

What is it?

Substance abuse refers to maternal use of tobacco, alcohol, or illicit drugs during the course of a pregnancy. Either excessive or moderate use of these substances can result in poor infant health outcomes.

Fetal alcohol syndrome (FAS) consists of a group of birth defects including mental retardation, deficient growth, brain defects, and characteristic defects of the skull and face resulting from alcohol consumption by the mother during pregnancy.

Why are they important?

Use of both licit and illicit drugs during pregnancy may result in a variety of effects, including preterm birth, low birthweight, miscarriage, FAS, and retarded fetal growth. Exposure to alcohol, tobacco, or other drugs during the first trimester of a pregnancy is the most detrimental time. This is also the most likely time for unintentional alcohol exposure to occur, before a woman knows she is pregnant.

Many substance abuse related birth outcomes have lifelong effects, leading to substantial health care costs and decreased life expectancy and quality of life. FAS is one of the leading preventable causes of birth defects. Estimates of FAS rates in the United States range from 0.2 to 1.0 per 1,000 live births. Because of a lack of a national surveillance system for FAS, Healthy People 2010 has set only a developmental objective aimed at reducing the occurrence of fetal alcohol syndrome. The objective for prenatal substance exposure is to "increase abstinence from alcohol, cigarettes and illicit drugs among pregnant women.[39]" Specifically, increase reported abstinence from alcohol to 94%, from binge drinking to 100%, from cigarette smoking to 98%, and from illicit drugs to 100%.

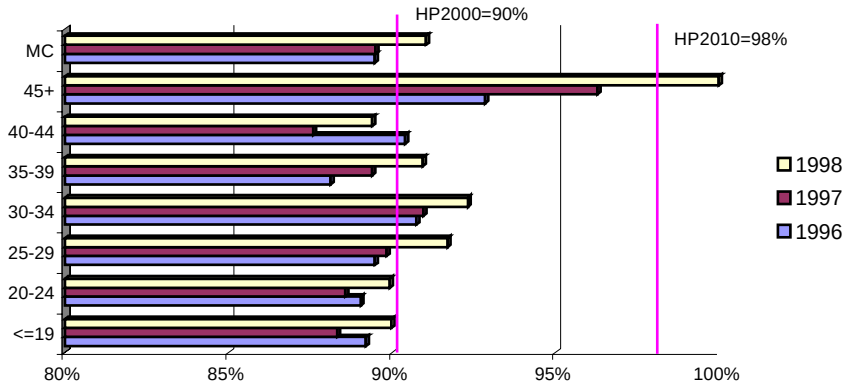
How are we doing?

- In 1998, Maricopa County had a rate of abstinence from tobacco among pregnant women of 91%, an improvement from the 1997 rate of 89.5%[*]. Arizona's abstinence rate for 1998 was 92.5%, while the U.S. had a rate of 87.1%.[40]

- In Maricopa Co., women age 40-44 had the worst rate for abstaining from tobacco during pregnancy, at 89.3%. Mothers 20-24 and mothers 19 and younger followed, both at 89.9% abstaining.

[*] To achieve the most conservative estimates possible, unknowns were grouped with users when calculating abstinence rates.

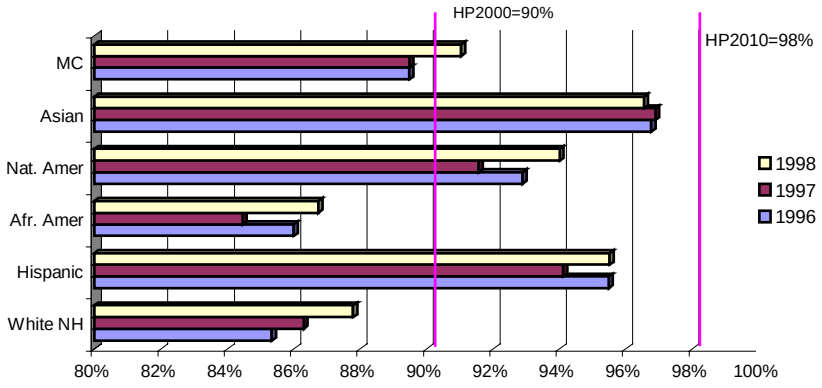
Percentage of Women Abstaining from Tobacco Use by Maternal Age Group, MC, AZ



- The only age group to meet the HP 2010 objective (98% abstaining) for tobacco in 1998 was women 45 and older, with 100% abstaining from tobacco. However, this group only had 42 births in 1998.

- In 1998 Asian women had the highest percent abstaining from tobacco during pregnancy, at 96.6% (of 1,104 births). African American women and White women have the furthest to go in order to meet the HP 2010 objective of 98% abstaining. Only 87% of African American women abstained in 1998, and 88% of White women.

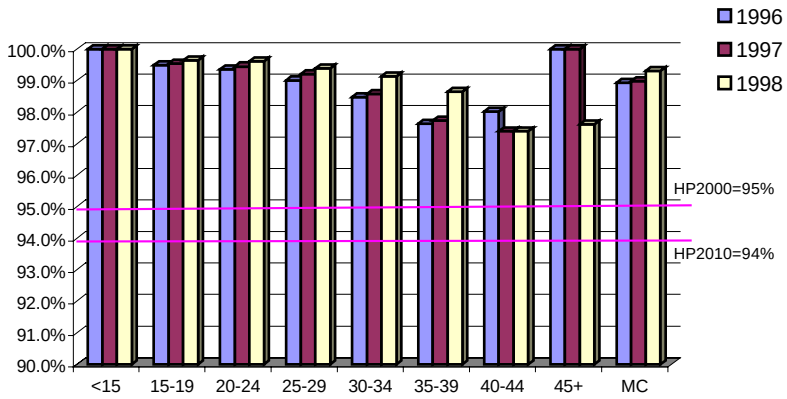
Percentage of Women Abstaining from Tobacco by Maternal Race/Ethnicity, MC, AZ



- Maricopa County's 1998 rate for abstinence from alcohol during pregnancy was 99.3%, better than the Healthy People 2010 objective of 94% abstaining. Arizona had an overall abstinence rate of 99% while the U.S. rate was 98.9%.

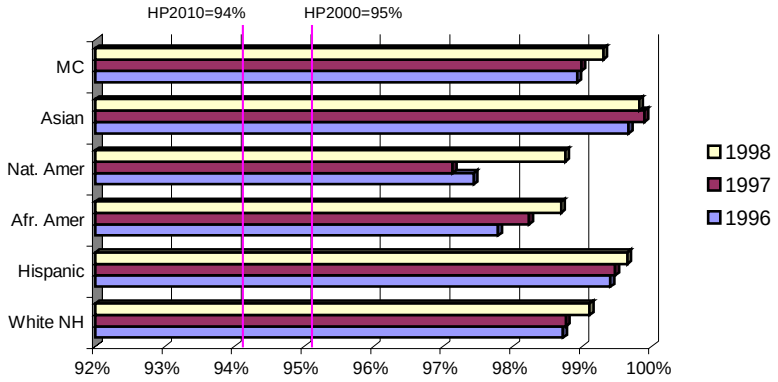
- All age groups met the HP 2010 objective of 94% abstaining from alcohol in 1998. There was a decreasing trend in the percentage of women abstaining with increasing age of the mother, with the exception of women 45 years and older. The change from 1997 to 1998 in the category of women 45 and older represented a difference of one birth.

Percentage of Women Abstaining from Alcohol by Maternal Age Group, MC, AZ



- All racial ethnic groups have met the HP 2010 objective for abstinence from alcohol. Native Americans and African Americans were the only groups below 99% abstaining, at 98.8% and 98.7% respectively.

Percentage of Women Abstaining from Alcohol by Maternal Race/Ethnicity, MC, AZ



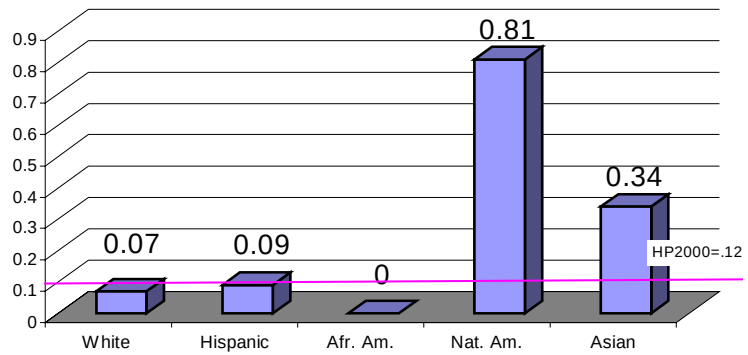
- Although rates of FAS in Maricopa Co. are relatively low, it is thought that in the U.S. alcohol related birth defects and neurodevolpmental disorders occur 3 to 4 times more often than reported cases of FAS.[39]

- FAS rates are unstable in Maricopa County due to the small number of cases. In 1998 the rate for Maricopa Co. was 0.12 per 1,000 live births, representing 6 cases. Arizona had a rate of 0.32 per 1,000 live births in 1990 (22 cases).[41]

- Nationally, rates of FAS tend to be highest among African Americans and Native Americans. U.S. rates in 1990 were 5.2 and 1.4 per 1,000 live births for Native Americans and African Americans, respectively, and 0.4 per 1,000 for the population as a whole.[39]

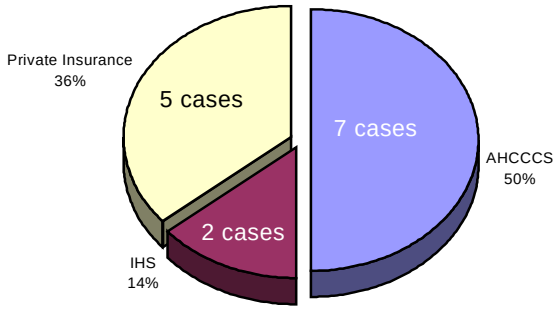
- In Maricopa County, FAS rates were highest among Native Americans (0.81 per 1,000 live births) when averaged over the years 1996-1998. However, this rate represented only 3 FAS births.

FAS Rate (Three Year Average) per 1,000 Live Births by Maternal Race/Ethnicity, MC, AZ 1996-98



- National Institutes of Health estimates put the economic burden of FAS for the U.S. at 1.9 billion in 1992. In Maricopa County, from 1996 to 1998, 50% of all FAS births were paid for by AHCCCS, 14% by IHS, and the remaining 36% were paid for by private insurance companies.

Percentage of FAS Births by Payee, Maricopa County, 1996-1998



- Hospital discharge data from 1998 indicates a larger FAS problem. While there were only 4 births in 1998 identified as FAS births, there were 25 discharges from Maricopa County hospitals that were FAS related. Additionally, there were hospital discharges for Native Americans and African Americans, although there were no reported births in these races in 1998. It should be noted that discharges do not necessarily represent individuals, as one person may be discharged more than once.

Reported FAS Discharges versus Births, MC, 1998

	Discharge Data*	Birth Certificate
Native American	6	0
Asian	0	0
Black	4	0
Hispanic	4	2
White Non-Hispanic	11	2
Total	25	4

* Two of the 25 discharges were children over age 2.

What are we doing?

- The Office of Health Promotion & Education manages the Maricopa County Tobacco Use Prevention Program (MACTUPP). MACTUPP funds “Local Projects” to provide tobacco prevention services to its community members. The tobacco prevention focus

is split into two area; school-based prevention and community-based prevention.

Prevention services targeted at pregnant women and their partners include pre-natal class presentations, informational packets given after delivery and via health fairs specific to pregnant women and women with young children. Promoters also visit homes of pregnant and post-partum women to educate them about the effects of tobacco use and environmental smoke exposure on their children, unborn child, and other members of the family.

- In collaboration with the Arizona Department of Health Services Tobacco Education and Prevention Program (ADHS TEPP) and the University of Arizona Health Science Center, a WIC clinic is piloting a tobacco cessation program that provides a brief intervention program targeting tobacco cessation during pregnancy.

Recommendations

Assessment

- Collaborate with ADHS to improve and update current birth defects registry.

- Institutionalize PRAMS in Maricopa County to assess substance abuse among recently delivered women, as well as knowledge of the effects of tobacco and alcohol on infant health.

Assurance/Policy Development

- Improve clinician knowledge of FAS to impact missed diagnoses.

- Promote incorporation of health education and counseling as part of routine women's health care services.

- Develop and support policies that increase access to substance abuse and tobacco cessation services for women, and promote local capacity and infrastructure building for the provision of such services.

- Expand availability of educational materials regarding potential effects of substance abuse during pregnancy.

- Modify birth certificates to ask number of drinks per month rather than number of drinks per week. Women who drink less than one drink per week may currently be classifying themselves as non-drinkers.

Injuries and Violence

Key Findings

Unintentional Injuries

- The top two causes of unintentional injuries for individuals 15 years of age and younger in Maricopa County were motor vehicle accidents (36.65%) and falls (39.44%). These were the top two unintentional injuries for women 15-44 years of age as well, at 64.48% and 21.24% respectively.

- Nationally, unintentional injuries were reported as one of the 5 leading causes of death for children ages 19 years old and younger.

Homicide and Violence and Abuse Towards Women

- Homicide was ranked the fourteenth leading cause of death among all people in the U.S. Homicide rates are high for older teens and young adults.

- In 1998 the homicide death rate among males and females less than 15 years of age in Maricopa County was 2.69 per 100,000 population while the U.S. rate was 1.98 per 100,000 males and females less than 15 years of age.

- There was a void in available data pertaining to intimate partner violence in Maricopa County.

Suicide

- The overall suicide death rate in the U.S. was 12.0 deaths per 100,000 population. In 1998 the suicide death rate in Maricopa County for women ages 15-44 was 8.78 per 100,000 population.

- The suicide death rate for males and females less than 15 years of age in Maricopa County (0.78 per 100,000 population) exceeded the comparable (males and females less than 15 years of age) U.S. rate of 0.53 per 100,000.

Injuries and Violence

Unintentional Injuries

What are they?

Unintentional injuries are types of injury that occur without purposeful intent. Motor vehicle accidents, falls, poisonings, suffocation, drowning, firearm injuries, bicycle accidents, and burns are all considered unintentional injuries.[42]

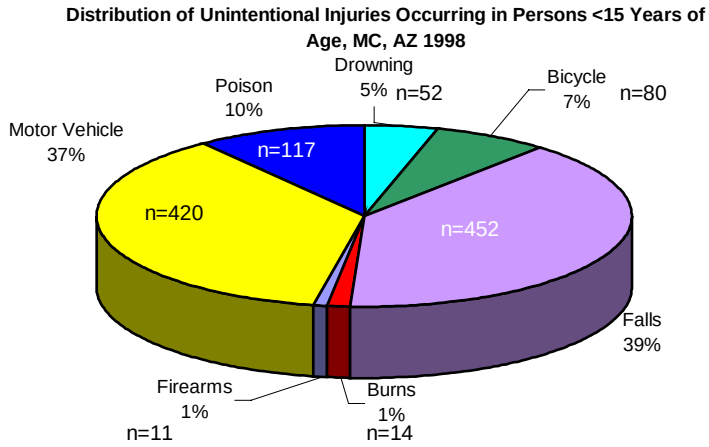
Why are they important?

One out of every 17 deaths in the United States results from injury, or roughly 400 deaths each day.[43] Many injuries are avoidable through education and precautionary behaviors such as wearing seatbelts and helmets. The Public Health Policy Advisory Board (PHPAB) reported that unintentional injuries ranked as one of the top 5 causes of death for American children ages 19 and younger.[44] Healthy People 2010 has a developmental goal of reducing nonfatal unintentional injuries; the HP2000 goal was 754 unintentional injury hospitalizations per 100,000. HP 2010 also has a goal to reduce deaths caused by unintentional injuries to 20.8 deaths per 100,000 population.

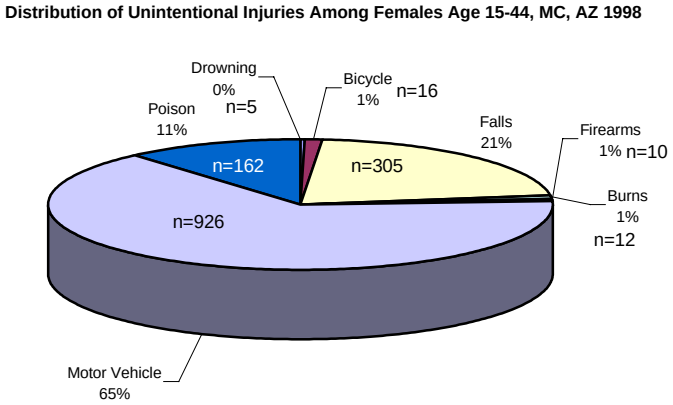
Data were analyzed from the 1998 hospital discharge data and Maricopa County death certificate records. It is important to note that discharge data captures all discharges; thus, persons may be counted more than once if they were readmitted.

How are we doing?

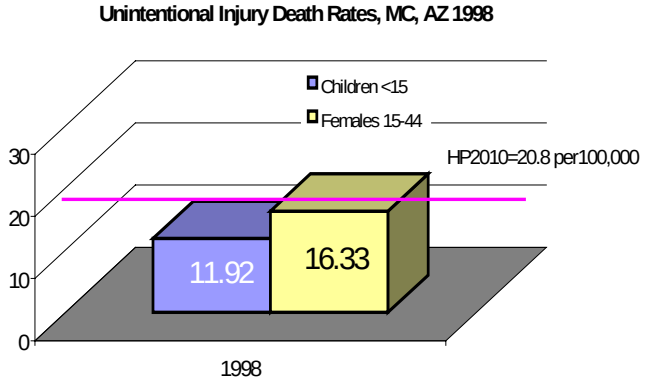
- Among children younger than 15 years of age, males accounted for 62.0% of all unintentional injuries. The unintentional injury categories with the most discharges for 1998 were falls (39.44%) and motor vehicle accidents (36.65%).[45] Nationally, motor vehicle accidents and drowning are the leading causes of unintentional death in children 14 and younger.[46]



- Among women age 15-44 the two highest categories of unintentional injury discharges in 1998 were falls (21.24%) and motor vehicle accidents (64.48%).

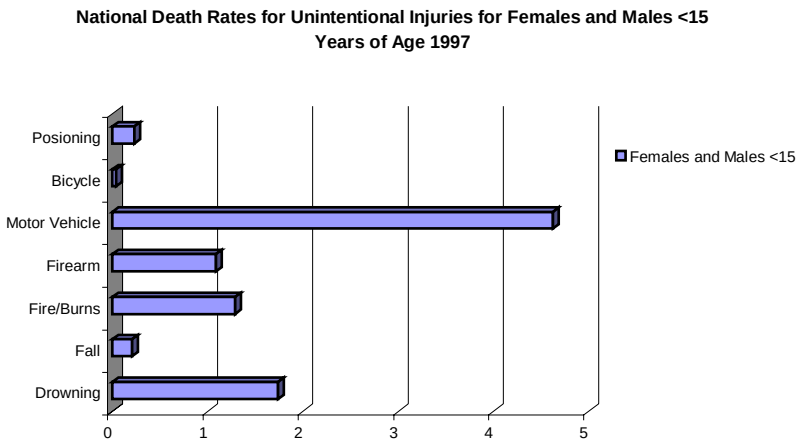


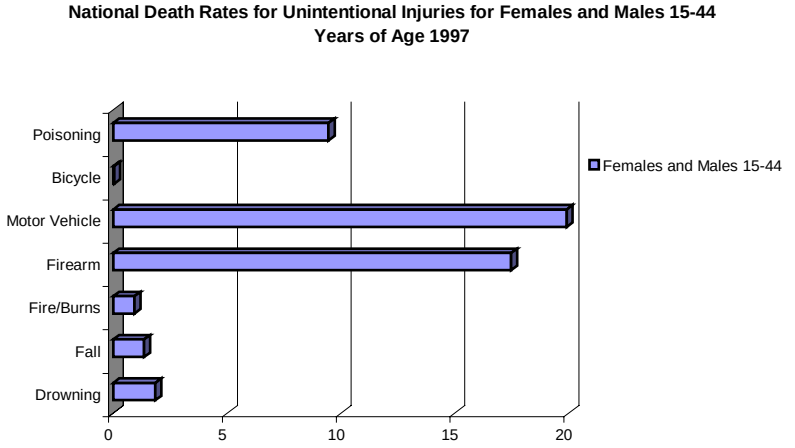
- Nationally, the largest proportion of adolescent (10-19 years of age) injuries is due to motor vehicle crashes. In 1997 3.5 million adolescents were injured as a result of motor vehicle accidents.[47]



- Deaths due to unintentional injuries among women 15-44 years of age in Maricopa County were 16.3 per 100,000 population and 11.9 per 100,000 population for all individuals younger than 15 years of age. These are both below the overall population objective set by HP2010 of 20.8 deaths per 100,000 population, and were also below the HP2000 objective of 29.3 deaths per 100,000 population (again, the HP2000 rate was for men and women of all ages).[2]

- Nationally, deaths due to unintentional injuries among men and women less than 15 years of age were 9.23 per 100,000 population.





- Among men and women 15-44 years of age, the death rate was 51.1 per 100,000 population.[45]

Injuries and Violence

Homicide and Violence and Abuse Towards Women

What is it?

Homicide is any intentional injury inflicted by a person resulting in the death of another. Included in this category are physical and non-physical assaults and mal-treatments. Deaths caused by law enforcement in the line of duty are not considered homicide.

Violence and abuse towards women encompasses intimate partner violence, rape, and physical and nonphysical maltreatment by friends and/or family. Intimate partner violence is any threatened or actual use of physical or sexual violence or psychological and emotional abuse by an intimate partner.[43]

Why is it important?

Homicide is a leading cause of death among young adults. In general, older teens and young adults have the highest homicide rates. Overall, homicide was ranked the fourteenth leading cause of death among all people in the U.S. PHPAB ranked homicide as one of the five leading causes of death for American children 19 years and younger. Identifying trends that exist within racial and ethnic groups as well as differentiating among age groups allow for specific interventions and programs.

The CDC has identified intimate partner violence and sexual assault against women as significant and costly health issues.[47] Approximately 4 million women experience an assault by an intimate partner during an average 12-month period in the U.S., resulting in numerous homicides, severe injuries, and psychological effects. Conservative estimates of the prevalence of violence occurring during or around the time of pregnancy range from 3.9% to 8.3%.[48,49] Extrapolating from this, up to 4,000 women may have experienced violence during their pregnancy in Maricopa County during 1998.

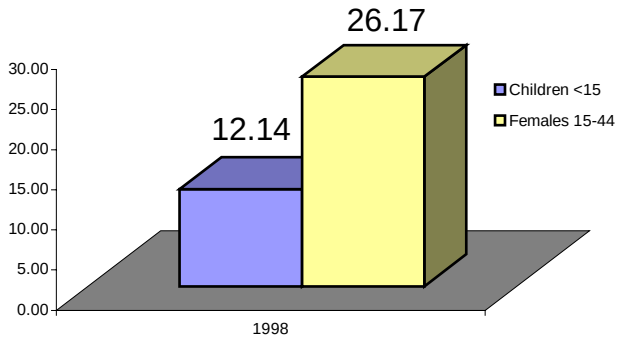
How are we doing?

- Data pertaining to violence and abuse towards women are difficult to acquire. Police records, shelter records, and outreach programs are but a few of the potential sources being explored for data. Hospital discharge data provide the only currently available source of data (ECODES: 960.0-969.9). There were no cases of rape (ECODE 960.1) or assault or battery by a current or former partner (ECODE 967.3) in the 1998 discharge data.

- Maricopa County hospital discharge data showed the number of homicides of males and females younger

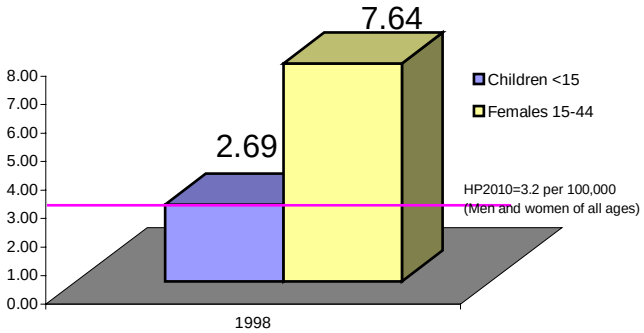
than 15 years of age to be 12.14 per 100,000 population (representing 77 discharges with an ECODE of 960-969.9 during 1998). This number was higher than actual homicide deaths (2.69 per 100,000) due to the discharge data including attempted homicides.[46]

Discharge Data on Homicide Rates, MC, AZ 1998



- The homicide death rate in Maricopa County for males and females younger than 15 years of age

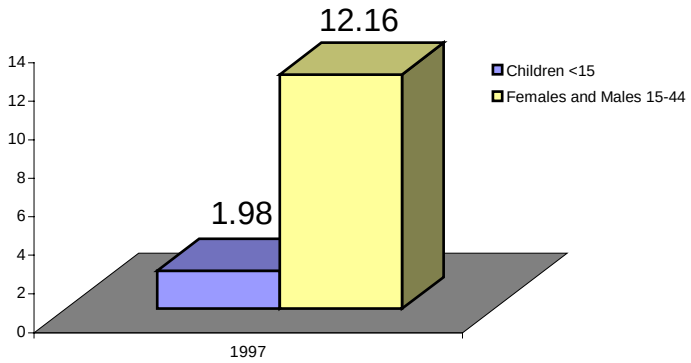
Homicide Death Rates by Gender and Age Group, MC, AZ 1998



totaled 2.69 per 100,000 population, with males accounting for more than one half of this rate.[45]

- The county rate for women 15-44 years of age was 7.64 per 100,000 population. The Healthy People 2010 objective for homicide deaths is to reduce the rate to 3.2 deaths per 100,000 population of all ages and both sexes.[45]

United States Homicide Death Rates by Age Group 1997



- The U.S. death rate due to homicides among males and females less than 15 years of age was 1.98 per 100,000 population. Nationally, males and females 15-44 years of age accounted for 12.16 homicide deaths per 100,000 population.[46]

Injuries and Violence

Suicide

What is it?

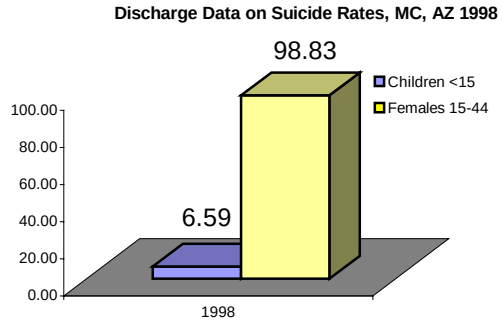
Suicide is an intentional self-inflicted, fatal injury.

Why is it important?

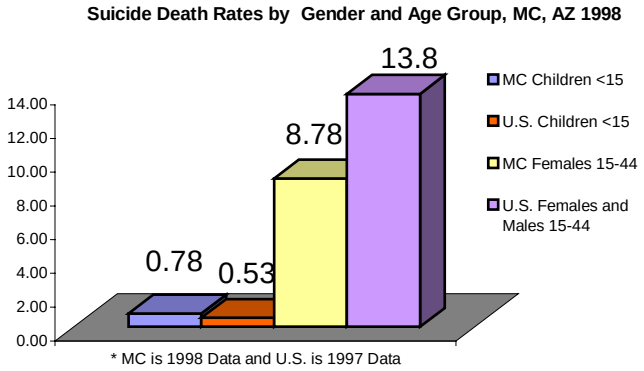
Suicide became the third leading cause of death among teens 15-19 years of age in 1999. It is the eighth leading cause of death for all Americans. The U.S. suicide rate was 12.0 per 100,000 population.[49] Given appropriate interventions and support, suicide can be prevented. Males are more likely to die from suicide while females are more likely to attempt suicide.[50]

How are we doing?

- 1998 hospital discharge data showed a rate of 6.59 discharges with a code for suicide (ECODES 950-959.9) per 100,000 population of males and females younger than 15 years of age. Women 15-44 years of age had a suicide discharge rate of 98.83 per 100,000 population. The HP 2000 objective for suicide deaths is 10.5 per 100,000 population. While the discharge rate among women 15-44 is much higher than the 2000 objective, this is expected, as not all suicide discharges represent deaths, and females have a higher rate of attempted suicide.[45]

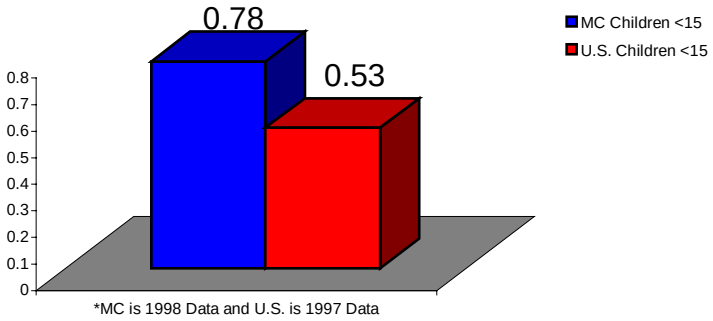


- As stated, the Healthy People 2000 objective concerning suicide is 10.5 per 100,000 population, which Maricopa County reached for children younger than 15 years of age (rate of 0.78 per 100,000) and for women 15-44 years of age (rate of 8.78 per 100,000).[45]

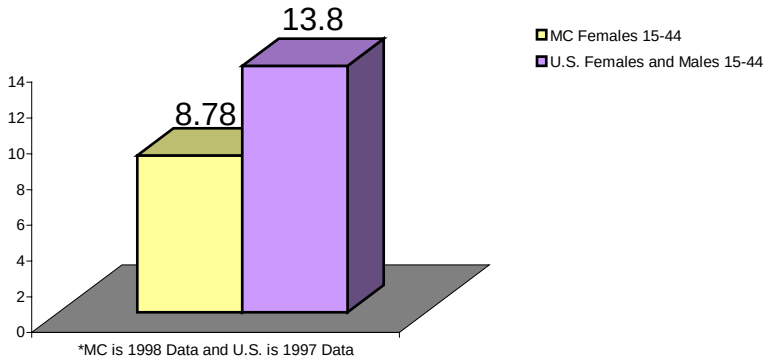


- The U.S. death rate for suicides among males and females less than 15 years of age was 0.53 per 100,000 population. The national rate for suicide deaths among males and females 15-44 years of age was 13.8 per 100,000 population.[47]

Suicide Death Rate Per 100,000 Among Children <15 Years of Age



Suicide Death Rate for Women 15-44 in MC and for All Persons 15-44 in the U.S.



Unintentional Injuries

What are we doing?

The Office of Family Health Parent Support Center's goal is to prevent child abuse by promoting positive parenting skills and coping strategies. The free services they provide include parenting classes and individual, family, and couple counseling. These services are open to the public. Through a collaboration with the community-based organizations, in-home case management is provided. Employers can now purchase a program called Successful Parenting Information Network (SPIN). The program is offered to parents at the work site. SPIN offers a variety of seminars that focus on parenting and child development issues.

The Office of Health Promotion and Education coordinates the SAFE KIDS Coalition of Maricopa County. This is a local coalition that is comprised of various organizations who work together to decrease unintentional childhood injuries and deaths. The focus is primarily on child safety seats and bicycle safety. Education is provided to the public via health fairs, bicycle rodeos, and car seat inspections and training. Car seats and bicycle helmets are donated to low-income families.

MCDPH Domestic Violence Workgroup is an internal group comprised of representatives from the various divisions and programs within the Department. Their goals are to raise employee awareness and provide staff development on domestic violence. A longer-range plan is to provide universal domestic violence screening with all MCDPH patient contacts.

MCDPH representatives promote domestic violence collaboration and service delivery improvements in the community by participating on various coalitions and work groups and advocating for an increase in prevention services and changes in public policy.

Recommendations

Assessment

- Improve accessibility of data pertaining to domestic violence and intimate partner violence.
- Expand on current injury surveillance in Maricopa County.

Policy Development/Assurance

- Acquire resources for development of domestic violence surveillance system, and expansion of injury surveillance in Maricopa County.

Technical Notes

Population Data	United States Census bureau county population estimates from 1990 to 1998 by age, sex, race and Hispanic origin, released September 15, 1999, were used for denominators. Data are available from http://www.census.gov/population/www/estimates/co_casrh.html
Birth and Death Data	Maricopa County Department of Public Health , Division of Epidemiology and Data Services was the source of all birth and death certificate data.
Oral Health Data	Arizona Department of Health Services, Bureau of Community and Family Health Office of Oral Heatlh provided oral health data.
Dropout Data	Arizona Department of Education, Research and Policy provided data on dropout rates in Maricopa County.
Demographic Data	Demographic data were obtained either from the Arizona Department of Economic Security or the U.S. Census Bureau.
Economic Data	Economic data were obtained from Arizona Department of Economic Security.
National Health Data	United States numbers and rates were obtained from the Centers for Disease Control and Prevention.
Data Tables	Data for all charts and graphs are included in a second volume, Maricopa County Maternal and Child Health Needs Assessment 2000: Supplemental Data Tables.

Request Form for Data Information

Maricopa County Department of Public Health, Division of Epidemiology and Data Services
1825 E. Roosevelt Street, Phoenix, AZ 85006 Phone (602) 506-6825 FAX (602) 506-6434

Office Use Only
Distribution: Mail_____ Fax_____ Pick-up_____

Check Completed: Mailed_____ Faxed_____ Picked-up_____

Date of Request: ___/___/___ Date Needed: (Allow minimum of 2 weeks): ___/___/___

Requester Name: _____

Address: _____ Phone: _____

_____ Fax: _____

Requester Affiliation: _____ Profit Org: ❒ Non-Profit Org: ❒

County Agency: ❒ Student/Faculty: ❒ State Agency: ❒

Other: ❒

Purpose of Information:_____

Please request only information you need. Unusually lengthy requests require much more staff and computer time and will result in greater preparation time and possibly client charges. Note that only data for Maricopa County is available from the County.

A "standard" birth and death report sample is attached. If you need your data presented in a different fashion (eg. Different cross-tabs or age groups) please describe what you need in the next block on this request.

MISCELLANEOUS NOTES AND/OR INSTRUCTIONS:

FOR OFFICE USE ONLY:

Completed by: _____ **Date:** ____/____/____ **Time:** _____

Completed by: _____ **Date:** ____/____/____ **Time:** _____

NATALITY (BIRTH) DATA REQUESTED

5. Time period(s) (1988 on available) (Years and/or Months): _____

6. Area(s) (must be Census Tracts, Health Status Areas or Cities) _____

7. All Births: ❒ Single Births Only: ❒ Multiple Births Only: ❒

8. Data Available (check only those needed):

Mother's Age: ❒ Adolescent Age Group: ❒ Race/ethnicity: ❒ Education: ❒

Marital Status: ❒ Child's Sex: ❒ Birth/Weight: ❒ #: of Prenatal visits: ❒

Trimester Care Began: ❒ Institution of Birth: ❒ Gestational Age: ❒

MORTALITY (DEATH) DATA REQUESTED

1. Time period(s) (1988 on available) (Years and/or Months): _____

2. Area(s) (must be Census Tracts, Health Status Areas or Cities) _____

3. 19 Main Causes of Death: ❒ OR: Specific Cause(s):_____

4. Data Available (check only those needed):

Age: ❒ Race/ethnicity: ❒ Sex: ❒ Marital Status: ❒ Education Level: ❒

Infant Mortality Age Components: ❒ Residence City at Death: ❒

OTHER DATA/INFORMATION

1. Census Data by Year and Age/Race/Sex for Health Status Areas Only (see attached map for Health Status Area definitions):
   Time Period(s) (Years only): _____ Health Status Area(s): _____
   ** Other Census data can be obtained from the State Department of Economic Security, Population Statistics Unit or from the ASU Library or the County Library. (Please note that additional Census data is available for Department of Public Health Personnel).

2. Specialized data is available from other databases. Please contact our office to discuss these data.
   a. Hospital Discharge Data b. Behavioral Risk Factor Survey (BRFS)

2000 MCH Maricopa County Needs Assessment
Users Survey

We want this document to be useful to you! Your reaction to this document is important to us. Please respond to the following questions within 30 days of receipt. Provide additional comments if you wish. After completion of this survey, remove this page from the book and FAX to Rose Howe, Community Development Manager at (602) 506-6444. Thank You.

1. Have you had a chance to use this Needs Assessment? ❑ Yes ❑ No
   If yes, what have you used it for? Please be as specific as possible.

2. Would you like to receive this document on an annual basis? ❑ Yes ❑ No

3. Would you be willing to pay printing costs to receive this document? ($25) ❑ Yes ❑ No

4. Which aspect of the needs assessment did you find most helpful?

5. Which aspect did you find least helpful?

6. Is there a colleague you feel would benefit from receiving this needs assessment? ❑ Yes ❑ No
   Please provide name and address:

7. What recommendations would you make to improve this document?

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